

378.47
(2218)
v. 13

THE CARNEGIE TRUST
FOR THE UNIVERSITIES OF SCOTLAND
(INCORPORATED BY ROYAL CHARTER)

THIRTEENTH ANNUAL REPORT

(FOR THE YEAR 1913-14)

Submitted by the Executive Committee
to the Trustees

On 24th February 1915.

THE LIBRARY OF THE
FEB 3 1915
UNIVERSITY OF MICHIGAN



THE CARNEGIE TRUST
FOR THE UNIVERSITIES OF SCOTLAND
(INCORPORATED BY ROYAL CHARTER)

THIRTEENTH ANNUAL REPORT

(FOR THE YEAR 1913-14)

Submitted by the Executive Committee
to the Trustees

On 24th February 1915

THE LIBRARY OF THE
FEB 3 1933
UNIVERSITY OF ILLINOIS.

EDINBURGH
PRINTED AT THE UNIVERSITY PRESS BY
T. and A. CONSTABLE
Printers to His Majesty
1915

378.41
C2/a
v. 13

CONTENTS

	PAGE
THIRTEENTH ANNUAL REPORT,	1
APPENDIX A. GRANTS TO UNIVERSITIES AND COLLEGES.	
Summary of Grants under Third Quinquennial Scheme of Distribution, for the period from 1st October 1913 to 30th September 1918,	7
APPENDIX B. ENDOWMENT OF POST-GRADUATE STUDY AND RESEARCH.	
I. Reports upon the Work of Beneficiaries during the Academic Year 1913-14, with List of Publications, and Summary of Awards and Payments,	15
II. Awards of Fellowships, Scholarships, and Grants for Academic Year 1914-15,	33
III. Report of the Superintendent of the Laboratory of the Royal College of Physicians, with List of Papers published by Workers,	41
APPENDIX C. ASSISTANCE TO STUDENTS.	
I. Fees paid in each University Centre during the Year 1913-14 :—	
(1) For previous Sessions,	47
(2) For Academic Year 1913-14,	48
(3) Abstract showing Total Class Fees paid during Financial Year 1913-14,	50
II. Comparative Tables for Academic Years 1912-13 and 1913-14 :—	
(1) Total Numbers of Beneficiaries (a) in each University Centre, and (b) in each Faculty,	51
(2) Total Payments for Fees (a) in each University Centre, and (b) in each Faculty,	52
(3) Average Amounts paid (a) in each University Centre, and (b) in each Faculty,	53
III. Summary of Voluntary Repayments by Beneficiaries during the period from 7th June 1901 to 30th September 1914,	54

13 Feb 33 dir. g. v. 13 1913/14 cont 15MP

THE CARNEGIE TRUST

	PAGE
IV. Tables showing the Number of New Applicants accepted for Winter Session 1913-14 in the various Faculties at the Four University Centres—(1) who obtained the Leaving Certificate; (2) who, though they had been in attendance at schools under inspection of the Scotch Education Department, had not obtained the Leaving Certificate; and (3) who had not been educated at schools under inspection of the Scotch Education Department, and were therefore unable to obtain the Leaving Certificate,	56
V. Table showing the Number of New Applicants refused for Winter Session 1913-14 in the various Faculties at the Four University Centres,	58

APPENDIX D. ACCOUNTS FOR THE YEAR 1913-14:—

(1) Receipts and Payments for General Purposes,	60
(2) Account of Income and Expenditure under Clause A,	62
(3) Account of Income and Expenditure under Clause B,	70
(4) ADDENDUM I.—Reserve Fund Account,	72
(5) ADDENDUM II.—Abstract of Balances and Payments therefrom to Universities and Colleges under Second Quinquennial Scheme of Distribution,	74
(6) ADDENDUM III.—Abstract of Grants and Payments to Universities and Colleges under Third Quinquennial Scheme of Distribution,	79
(7) ADDENDUM IV.—Statement of Income and Expenditure for Laboratory of Royal College of Physicians,	84
(8) ADDENDUM V.—Reporting Fees Account,	85
(9) ADDENDUM VI.—Details of Class Fees paid,	86
(10) ADDENDUM VII.—Note showing how Balances are accounted for,	87

THE CARNEGIE TRUST

FOR THE UNIVERSITIES OF SCOTLAND

THIRTEENTH ANNUAL REPORT.

THE EXECUTIVE COMMITTEE of the Carnegie Trust for the Universities of Scotland beg to submit to the Trustees the following Report on the administration of the Trust during the year 1913-14.

Grants to Universities and Colleges.—Under the Third Quinquennial Scheme of Distribution, which came into operation on 1st October 1913, a total sum of £203,250, or £40,650 per annum, has been allocated among the Universities and Extra-Mural Colleges. Of this sum £21,250 is to be applied towards providing books, etc., for libraries; £160,750 towards the cost of new buildings and of permanent equipment; while £21,250 has been assigned towards endowments for Lectureships and other general purposes. Details of the awards will be found in *Appendix A*, pages 7-10.

Endowment of Research.—The reports of the independent authorities who have examined the record of the year's work under the Research Scheme of the Trust again give evidence that its past success is being well maintained. These, with a list of publications of beneficiaries during the year, are given in

1913-14

THE CARNEGIE TRUST

Appendix B, pages 15-31. The Committee once more desire to acknowledge the assistance rendered by the Universities in providing the Scheme with so many able workers, and in affording accommodation and supervision in their laboratories.

Awards of Fellowships, Scholarships, and Grants for the academic year 1914-15 were announced last July, and will be found with all relative details on pages 33-40.

Applications for the academic year 1915-16 must be lodged on or before 15th April with the Secretary of the Trust, from whom Application Forms and Regulations can be obtained.

In addition to the above, the Committee decided last year to offer an annual Essay Prize for competition among graduates of the Scottish Universities who have not been Fellows or Scholars under the Trust, and they take this opportunity of repeating the conditions under which the Prize is offered :—

1. In order further to encourage post-graduate study and research within the departments of History, Economics, and Modern Languages and Literature, the Executive Committee of the Carnegie Trust offer a prize of £100 for annual award, along with the other awards under their Research Scheme, for the best Essay or Thesis on a subject within those departments.

2. The prize will be open each year for competition among graduates of the Scottish Universities who have not been Fellows or Scholars under the Trust.

3. The Committee reserve the right in any year to withhold, divide, or supplement this prize as they may see fit.

4. Award will be made only where the Essay is judged worthy of publication as an original contribution to learning; and in making an award the Committee may lay down such conditions regarding publication as they may see fit.

5. Essays must be lodged on or before 15th April in each year, with the Secretary of the Trust, The Merchants' Hall, Edinburgh.

In the Laboratory of the Royal College of Physicians, which in the department of Medicine continues to take a prominent share in the Trust's Scheme of Research, the record of work for the past year is equally encouraging. The Superintendent's Report and accompanying list of papers published by workers in the Laboratory during the year are printed on pages 41-43.

The expenditure for 1913-14 upon the scheme of Fellowships, Scholarships, and Grants, and upon the Laboratory, was respectively £7652, 14s. 9d. and £1392, 12s. 5d., towards the latter

THIRTEENTH ANNUAL REPORT

1913-14

of which the Royal College of Physicians, the Royal College of Surgeons, and the University of Edinburgh contributed £850.

Assistance to Students.—For the academic year 1913-14 the sum of £41,789, 3s. 6d. was paid on behalf of 3901 individual beneficiaries. This total does not include £36, 16s. 6d. which was paid to beneficiaries for classes taken outwith the academic year, nor £1298, the value of fee coupons issued but not yet cashed, which has been carried forward as a liability against the year now current. Details of the expenditure will be found in *Appendix C*, pages 47-53.

During the year a sum of £605, 18s. was voluntarily refunded by or on behalf of nineteen beneficiaries for whom class fees had been paid by the Trust. As will be seen from the Abstract printed on page 54, this is the largest sum yet received in any one year.

The Tables and Summaries on pages 55-58 give full details regarding the educational qualifications of new applicants for Session 1913-14. It will be noted that the percentage of those qualifying by Leaving Certificate is 87·6, as compared with 87·1 in the previous Session.

Accounts.—An abstract of the financial accounts of the Trust, with relative addenda, all as audited and certified correct by Mr. J. Maxtone Graham, C.A., are submitted herewith, *Appendix D*, pages 60-87.

(Signed) ELGIN,
Chairman.

8th February 1915.

APPENDICES.

THIRTEENTH ANNUAL REPORT

1913-14

APPENDIX

Appendix
A.

A.

Grants to Uni-
versities and
Colleges, 1913-18.

GRANTS TO UNIVERSITIES AND COLLEGES.

SUMMARY OF GRANTS UNDER THIRD QUINQUENNIAL DIS-
TRIBUTION, FOR THE PERIOD FROM 1ST OCTOBER 1913 TO 30TH
SEPTEMBER 1918.

SUMMARY OF GRANTS.

ST. ANDREWS CENTRE.

UNIVERSITY OF ST. ANDREWS,	£37,500
--------------------------------------	---------

ABERDEEN CENTRE.

UNIVERSITY OF ABERDEEN,	£40,000
U.F. CHURCH COLLEGE,	250
NORTH OF SCOTLAND COLLEGE OF AGRICULTURE,	1,000
ROBERT GORDON'S TECHNICAL COLLEGE,	2,000
	<u>£43,250</u>

GLASGOW CENTRE.

UNIVERSITY OF GLASGOW,	£50,000
ROYAL TECHNICAL COLLEGE,	5,000
ST. MUNGO'S COLLEGE,	2,000
ANDERSON'S COLLEGE MEDICAL SCHOOL,	500
GLASGOW VETERINARY COLLEGE,	500
SCHOOL OF ART,	1,000
U.F. CHURCH COLLEGE,	250
WEST OF SCOTLAND AGRICULTURAL COLLEGE,	1,000
	<u>£60,250</u>

EDINBURGH CENTRE.

UNIVERSITY OF EDINBURGH,	£52,500
HERIOT-WATT COLLEGE,	2,000
SCHOOL OF MEDICINE OF THE ROYAL COLLEGES,	2,000
SCHOOL OF MEDICINE FOR WOMEN,	2,000
ROYAL (DICK) VETERINARY COLLEGE,	1,000
COLLEGE OF ART,	1,000
U.F. CHURCH COLLEGE,	250
CLINICAL MEDICINE RESEARCH LABORATORY OF ROYAL INFIRMARY,	500
EDINBURGH AND EAST OF SCOTLAND COLLEGE OF AGRICULTURE,	1,000
	<u>£62,250</u>

Grand Total,	<u>£203,250</u>
------------------------	-----------------

1913-14

THE CARNEGIE TRUST

Appendix

A.

ST. ANDREWS CENTRE.

Grants to Universities and Colleges, 1913-18.

Payable to St. Andrews University Court—

Library, payable quarterly,	£5,000
To complete steel shelving of Library,	1,700
Towards equipment of Chemical Laboratory,	200
Towards equipment of Conjoint Medical School, Pathological Museum, etc.,	800
Towards replacing capital expenditure out of General Fund upon buildings and permanent equipment during recent years, as under,	14,100
Fitting up electric light : for hot water pipes and for desks for new examination room at United College,	£67 1 9
For addition to Library, and for steel book cases beyond Dr. Carnegie's donation of £12,000,	1,215 0 6
For Pettigrew Museum and cases, beyond donations of £8643 therefor by Professor and Mrs. Musgrove,	2,979 11 8
For forming Botanical Garden beyond Grant from Carnegie Trust therefor (£958), and donation from Mrs. Pettigrew for the glass-houses (£400),	224 16 5
For altering and improving Latin Class, etc., Rooms,	194 12 11
For fitting up Agricultural Department,	198 2 8
Price of 71 North Street, and cost of converting same into University Offices, and for fitting therefor,	2,351 7 1
Cost to the University Court of building addition to east wing of the United College, and alterations on Geology Class-room (after deducting Grant of £4,002, 9s. 9d. by the Trust),	4,939 12 11
Cost of Physics Laboratory,	2,247 17 3
	<u>£14,418 3 2</u>

Payable to Dundee University College Council—

To pay off outstanding debt incurred in acquisition of sites for extension of University College buildings,	7,700
Towards cost of fittings and equipment of new Engineering Laboratory,	3,000
For completion of endowment of University Lectureship in Geology,	5,000
	<u>£37,500</u>

ABERDEEN CENTRE.

UNIVERSITY OF ABERDEEN.

Library, payable quarterly,	£5,000
Equipment of Laboratories,	5,000
For New Buildings at King's College and towards extension of Library and erection of an Examination Hall at King's College,	24,750
Completion of endowment of the following Lectureships:—	
German,	2,250
Education,	1,000
Constitutional Law and History,	2,000
	<u>£40,000</u>

U.F. CHURCH COLLEGE.

Library, payable quarterly,	£250
---------------------------------------	------

NORTH OF SCOTLAND COLLEGE OF AGRICULTURE.

For purpose still to be arranged,	£1,000
---	--------

ROBERT GORDON'S TECHNICAL COLLEGE.

Towards cost of new Engineering School,	£2,000
---	--------

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
A.Grants to Uni-
versities and
Colleges, 1913-18.

GLASGOW CENTRE.

UNIVERSITY OF GLASGOW.

Library, payable quarterly,	£5,000
Towards provision of New Buildings for the Faculty of Arts and the Department of Zoology,	45,000
	<u>£50,000</u>

ROYAL TECHNICAL COLLEGE.

Library, payable quarterly,	£500
Provisional Assistance, payable quarterly,	1,500
Endowment Fund for Salaries and Pensions,	3,000
	<u>£5,000</u>

ST. MUNGO'S COLLEGE.

Provisional Assistance, payable quarterly,	<u>£2,000</u>
--	---------------

ANDERSON'S COLLEGE MEDICAL SCHOOL.

Equipment,	<u>£500</u>
----------------------	-------------

GLASGOW VETERINARY COLLEGE.

Towards Completion of Building Scheme,	<u>£500</u>
--	-------------

SCHOOL OF ART.

Equipment—Library and Museum,	<u>£1,000</u>
---	---------------

U.F. CHURCH COLLEGE.

Library, payable quarterly,	<u>£250</u>
---------------------------------------	-------------

WEST OF SCOTLAND AGRICULTURAL COLLEGE.

For purpose still to be arranged,	<u>£1,000</u>
---	---------------

EDINBURGH CENTRE.

UNIVERSITY OF EDINBURGH.

Library, payable quarterly,	£5000
For Buildings and Equipment under the following heads :—	
(a) Chemical Department, Arts accommodation, Apparatus and Equipment, and Catalogue of Anatomical Museum,	37,500
(b) Edinburgh Lister Institute of Pathology,	10,000
	<u>£52,500</u>

HERIOT-WATT COLLEGE.

Towards the Building and Equipment of the Mining Department of the College,	<u>£2,000</u>
--	---------------

SCHOOL OF MEDICINE OF THE ROYAL COLLEGES.

Towards the provision of Equipment and for the general purposes of the School,	<u>£2,000</u>
---	---------------

1913-14

THE CARNEGIE TRUST

Appendix
A.EDINBURGH CENTRE—*continued.*Grants to Uni-
versities and
Colleges, 1913-18.

SCHOOL OF MEDICINE FOR WOMEN.

Towards the provision of Equipment and for the general purposes of the School,	£2,000
--	--------

ROYAL (DICK) VETERINARY COLLEGE.

Towards the completion of the Building Scheme of the College,	£1,000
---	--------

COLLEGE OF ART.

Equipment,	£1,000
------------	--------

U.F. CHURCH COLLEGE.

Library, payable quarterly,	£250
-----------------------------	------

CLINICAL MEDICINE RESEARCH LABORATORY OF ROYAL
INFIRMARY.

Towards general purposes, payable quarterly,	£500
--	------

EDINBURGH AND EAST OF SCOTLAND COLLEGE OF AGRI-
CULTURE.

For purpose still to be arranged,	£1,000
-----------------------------------	--------

THIRTEENTH ANNUAL REPORT

1913-14

—
Appendix
A.Grants to Uni-
versities and
Colleges, 1913-18.

CONDITIONS OF PAYMENT OF GRANTS

1. As the aggregate Grant to each University or College accrues by equal quarterly instalments over the Five Years Period, the total payments at any time cannot exceed the amount of the instalments that may have accrued.
2. A Grant for Annual Expenditure is payable at the close of each quarter of the financial year.
3. A Grant for Building or Permanent Equipment is payable on the production of the Architect's certificate of sums due to Contractors, or of accounts of expenditure on the equipment in question, the amount being limited to the proportion which the total Grant bears to the whole cost.
4. A Grant for Endowment of a specific Chair or Lectureship is payable at the close of the Quinquennial Period, when the total sum has accrued, provided that in each case the Endowment Fund from this and other sources, if any, allows of its proper institution. In the event of contributions from other sources providing, along with instalments accrued under the Grant, for the earlier institution of Chair or Lectureship, such instalments will then be payable.
5. Instalments where not paid over in the manner above stated at the end of the quarter, shall be placed to the credit of an account kept for the University or Institution to be drawn upon as required, but no interest will be allowed upon such undrawn instalments or balances thereof.
6. Reports showing the amounts received from the Trust during the year, and the manner of their expenditure, will be expected at the close of each financial year from each University or Institution receiving Grants under the Scheme.

**APPENDIX
B.****ENDOWMENT OF POST-GRADUATE
STUDY AND RESEARCH.**

- I. REPORTS UPON THE WORK OF BENEFICIARIES DURING
THE ACADEMIC YEAR 1913-14, WITH LIST OF PUBLICA-
TIONS, AND SUMMARY OF AWARDS AND PAYMENTS.
- II. AWARDS OF FELLOWSHIPS, SCHOLARSHIPS, AND GRANTS
FOR ACADEMIC YEAR 1914-15.
- III. REPORT OF THE SUPERINTENDENT OF THE LABORATORY
OF THE ROYAL COLLEGE OF PHYSICIANS, WITH LIST
OF PAPERS PUBLISHED BY WORKERS.

APPENDIX

B.

RESEARCH SCHEME, 1913-14.

I. REPORTS UPON THE WORK OF BENEFICIARIES DURING
THE ACADEMIC YEAR 1913-14.*Physical and Chemical.*

Seven Fellows were elected for the year 1913-14 in the subjects upon which I have been asked to report, but one of them, Mr. W. B. Normand, resigned before the beginning of the session on his appointment as Scientific Assistant to the Meteorological Department at Simla. The remaining six have all justified their election by the diligence and success with which they have pursued the researches approved for them by the Trust, and in nearly every case their work has yielded results of permanent value to science. Three papers by Fellows have been published in the course of the year, and material for several others has been accumulated and is being prepared for publication. The University of Glasgow has recently placed its imprimatur on the work of Miss Margaret B. Moir by awarding her the degree of Doctor of Science for a thesis based on her investigations on the influence of temperature upon the magnetic properties of steels. Miss Moir devoted herself with unremitting zeal and conspicuous success to the study of this question during the whole period of five years for which she was a beneficiary of the Trust. Mention must also be made here of a Memoir by Dr. Dougall, a former Carnegie Fellow, on "An analytical theory of the equilibrium of an isotropic elastic rod of circular section," which has been published in the *Transactions of the Royal Society of Edinburgh*. Mathematicians who have examined this Memoir describe it as exhibiting great power and originality of method, and regard it as an important contribution to the theory of elasticity.

Mr. William Gordon and Mr. Alexander Hynd resigned their Fellowships after a tenure of two years, on appointment, the former as Lecturer in Forest Engineering and Assistant in Engineering in the University of Edinburgh, and the latter as Assistant Research Chemist in the Department of Agriculture, University of Leeds. A third Fellow, Miss Bina M. Paterson, having accepted the post of Demonstrator in Chemistry in Bedford College, University of London, at the beginning of the session, resigned her Fellowship, which had been renewed for a second year.

The list of Scholars for the year contains the names of seventeen beneficiaries. Two of these resigned before the beginning of the session, and two others after a tenure of only six months, in order to take up

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1913-14.

University appointments. Mr. James A. Donaldson, a promising Scholar in Physics, died in the course of the year. Of those who completed the year, four were promoted to Fellowships; one was awarded an 1851 Exhibition Scholarship; and six were re-elected Scholars for the current year.

The supervisors bear testimony in every case to the satisfactory progress of the Scholars under their charge. Evidence of their industry and of their aptitude for research is to be found in the large amount of valuable work which they have accomplished during the session. Although much of this is still unfinished, no less than thirteen papers have been published since last December, seven in the *Transactions of the Chemical Society* and the others in the journals of scientific societies of acknowledged standing.

Without wishing to attribute undue importance to the publication of results by Scholars, whose researches are carried on for the most part in collaboration with or under the immediate direction of their supervisors, it must, I think, be considered a highly encouraging circumstance that so much of the work on which they are engaged is deemed worthy of a place in the recognised scientific literature of the day. As in previous years, the majority of the Scholars selected subjects in organic chemistry for investigation, but important researches are also in progress in physics, mineralogy, and engineering.

The Grants in aid for the year were applied for the most part in respect of chemical and geological investigations, in the former case to defray the cost of material and apparatus, and in the latter case mainly for expenses connected with the illustration of memoirs. In all, fifteen awards were made under this head, but in one or two cases the sums awarded have not been claimed. In every case in which the Grant was paid, a satisfactory report has been received as to the progress of the work. The number of researches completed and published within the year was twelve, besides two carried out with grants made prior to 1913-14. The numerous contributions to organic chemistry from the laboratories of Professors G. G. Henderson, J. Irvine, and Dr. T. S. Patterson, assisted by Grants, are for the most part the joint work of the Professors and Carnegie Scholars, past or present, and are noteworthy not only on account of their intrinsic importance but as illustrating the success with which the permanent members of the College staffs and the Carnegie beneficiaries are collaborating in the work of research.

The effects of the war on the work of the Research Scheme are already making themselves felt in various directions. Three beneficiaries are now serving with the colours, and several of the Grantees state that their opportunities for carrying on research work have been much curtailed in consequence of the absence of colleagues on military service. In some cases the difficulty of obtaining chemicals formerly supplied by German firms is interfering seriously with the progress of research, and it may be necessary on this account to allow some modification of the programmes approved for the present year. On the other hand, the war is likely to afford a great stimulus to research in this country. The threatened stoppage of important industries from want of chemical material, hitherto

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
B.Research Scheme,
1913-14.

obtained from Germany, has brought home to our manufacturers the danger of trusting to external sources of supply. Before, however, it will be possible to replace foreign by British made chemicals, in most cases much preliminary investigation will have to be carried out in the laboratory, and already many chemists are engaged in attempting the solution of some of the more urgent problems. It is generally recognised that the university and college laboratories can supply the skill and knowledge which are essential, but that a more intimate association than has hitherto existed between our industries and our universities is necessary to the attainment of satisfactory results. Many of the Carnegie Fellows and Scholars are eminently qualified by the training and experience they have obtained in the prosecution of their researches to take an important share in this work.

JAMES J. DOBBIE.

Biological and Medical.

I have carefully examined the records of work done on biological and medical subjects by the beneficiaries of the Trust during the year 1913-14, and beg to summarise my detailed reports as follows.

1. *Fellowships*.—During the year seven Fellows have been at work, one on a subject connected with botany, one on zoology, one on physiology, two on phonetics, and two on pathology. The results as a whole have been fairly satisfactory, although the standard of efficiency has perhaps not quite reached that attained in previous years. In four cases definite results have been obtained, as is evidenced by the papers which have been published. In two other cases the efforts of the beneficiaries have been hampered by the field of enquiry having been too extended, and in a third case the worker has been prevented from obtaining definite results through his plans of research being diverted to new lines. Three of the beneficiaries have resigned their Fellowships, one on obtaining a Beit Scholarship and two on obtaining academic positions, one of these being in an American university.

2. *Scholarships*.—Ten Scholars received appointments at the beginning of the year, but in two cases the award of the Executive was not taken advantage of. Three of the Scholars were engaged on technical subjects in connection with agriculture, one in zoology, one in anatomy, one in physiology, and two in pathology. The selections made by the Executive have been fully justified. In seven cases excellent work has been done, and a number of papers recording the results have been published. Special mention may be made in this connection of the researches pursued by Mr. Kenneth MacLennan on the effects of liming on the soil, of Dr. Agnes Porter on the biology of the tubercle bacillus, and of Dr. Ferguson Smith on the pathology of ozaena. One Scholar commenced work, but as this did not come up to expectations the Scholarship was withdrawn. During the year two of the beneficiaries resigned their appointments in consequence of obtaining academic promotion, and to this cause was due the resignation of one of the Scholars before any work had been undertaken.

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1913-14.

3. *Grants.*—Grants in aid of research were made to fifty-one workers. As in the past, these belonged to various groups. Nineteen of the beneficiaries were members of the staffs of Scottish universities, nearly all of whom have for longer or shorter periods been engaged in research work. In the remaining cases the beneficiaries had either been previously at work under the Trust or were connected with university departments or with independent institutions. In nine cases the grant was expended in aiding the publication of work already completed, and special attention may be directed to the valuable aid which this part of the Research Scheme furnishes; if provision of this kind were not made, the publication of much good work would be prevented or would be hampered through the papers published being inadequately illustrated. Some of the grants have helped forward important collective investigations which are in progress in Scotland. Amongst these may be mentioned the enquiry on bird migration which is being carried on in the Zoological Department of the University of Aberdeen, the work on the pathology of insanity initiated by the Scottish Asylums, and that on tuberculosis which has been going on for some years in Edinburgh. Of the individual researches which have been aided there may be mentioned that of Professor M'Intosh on the annelids, of Professor Herring on the functions of the pituitary gland, of Professor Stockman on the alkaloids of the catha plant, of Professor Muir on the fate of iron in the body in anæmia, of Miss Florence on the food of birds, and of Mr. Cran on the mycetoza.

Looking on the year's work as a whole, I consider that the Executive Committee have ample reason to be satisfied. Though the record of the Fellows and Scholars does not disclose so many examples of results of outstanding merit as have characterised the working of the Research Scheme in recent years, still a large number of important enquiries have been conscientiously pursued. In all great movements such as are represented by the Research Scheme periods of diminished effort or of lessened attainment must be looked for, and their occurrence need not in any way be a cause for discouragement.

It is already obvious that the European war will interfere very seriously with research work on the part both of Fellows and Scholars and of the staffs of the Scottish universities. A number of beneficiaries are now on service, and, especially in departments concerned with medical science, additional routine work will be thrown on those who remain, which cannot but diminish the time available for original investigation.

JAMES RITCHIE.

Historical, Economic, and Linguistic.

Fellows.—I have had before me the Reports of five Fellows, of which I may give a brief summary. On his appointment as Lecturer in the London School of Economics, Mr. William Kennedy resigned his Fellowship at the expiry of the first half of the present year. As a beneficiary, he produced and published a work on Taxation, which, together with other works on economic subjects, has secured him his present post. Mr. Kennedy is recognised as a brilliant student,

THIRTEENTH ANNUAL REPORT

1913-14

Appendix.
B.

Research Scheme,
1913-14.

but he has been able to give only his divided attention to the subject he submitted to the Trust when he applied for a Fellowship. There is every reason to be satisfied with the work of Mr. Alexander Robertson, now Lecturer in History at the University of Sheffield, whose two theses, the Lives of Sir Robert Moray and Sir William Lockhart, produced with its aid, have been the means of securing him his present appointment. Miss Margaret Moore, also, has shown herself an able and industrious worker. Her book on the literature and sources of the English agrarian economy has been generally recognised as an important contribution to its subject, and she is now engaged on another work of a kindred nature, which will probably be published in the course of next year. The subject of Mr. William Peters is the economic condition of Russia, and, since he obtained his Fellowship, he has been studying in that country. As one result of his research he has written a Report on the cotton industry, which is about to be published, and which, from his account of its contents, appears to contain valuable information on its subject. Since Miss Mary Paton Ramsay was elected to a Fellowship in 1913, she has been engaged in investigations into the origins of English metaphysical poetry. Her supervisor, Professor Grierson, is satisfied with the progress she has made, but she intimates that she has still much to read before she can complete a finished thesis. As I indicated, when she originally applied for a Scholarship, the subject she undertook appears to have been of wider scope than she anticipated.

Scholars.—I have examined the files of fifteen Scholars, five of whom have at different times resigned their Scholarships, in the majority of cases on account of their promotion to appointments. Immediately after his election as a Scholar, Mr. William Robieson was appointed Assistant to the Professor of History at Glasgow, so that there is no report from him. After holding her Scholarship for a year, Miss Rudmose Brown resigned it on being appointed English Lecturer in Stockwell Training College. She did not complete her work on the influence of the minor English dramatists which she undertook, but she had made good progress with it, and fully intends to complete it. Mr. William Fortune held his Scholarship for twenty-one months, when he resigned it on his appointment as a member of the staff of the New Oxford Dictionary. At the date of his resignation he had completed the collection of his materials for his thesis, *Lexique de la langue de Jean Lemaire de Belgique*, which he means to finish and submit for a French degree. Miss Mary Waddell was forced to give up work on account of ill-health, but her reports till the date of her resignation showed that she was a conscientious and industrious student. Miss Jessie Murray, who produced excellent credentials on her application for a Scholarship, resigned without assigning a reason.

Of the remaining eight beneficiaries, who have retained their Scholarships, I can give an encouraging report. Miss Margaret Adams has made satisfactory progress with her thesis on emigration from Scotland, and will soon have collected all the materials accessible for the completion of her work. Mr. William B. Gray has virtually completed his account of the administration of Scotland under Charles II., which will in due course be submitted to the University of Oxford for the degree of B.Litt., and

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1913-14.

will be eventually published, I understand, by the Clarendon Press. Dr. R. L. G. Ritchie returns a very satisfactory report of the work of Miss Mary Burns on the language of Alphonse Daudet, for which she has now finished her researches. Mr. Gordon Donald, whose subject is "The pronunciation of literary Scots at the beginning of the sixteenth century," has made a beginning of the writing of his thesis, and he reports that he has received the degree of Doctor of Philosophy from the University of Heidelberg for his proficiency in philological studies. Miss Ruth E. Clark, who reports that she has been appointed Modern Language Mistress in the Grammar School for Girls, Watford, Herts, has finished her life of Anthony Hamilton, based on unpublished materials which she discovered in Paris, and will submit it to the University of Edinburgh for the degree of B.Litt. in the course of this winter. Dr. Ritchie testifies that the thesis of Miss Jane Milne, now near completion, is "a highly creditable piece of research." From personal knowledge of Mr. Henry Sellers, I am able to say that he is an enthusiastic student, and that his monograph on the poet Samuel Daniel will be an interesting contribution to English literature. Also, I can speak with personal knowledge of Mr. Peter Thomson's industry, of whose thesis on the influence of Lydgate on mediæval Scottish poetry, his supervisor, Professor Lawson, says that "it will give the Trust the utmost satisfaction."

Grantees.—I have had before me the files of thirty Grantees, from nine of whom there is as yet no report. In most of these cases the explanation is that grants in aid of publication were offered to applicants who have not yet utilised them. The reports actually given in seem to me very satisfactory. In no case can it be said that there has been a failure of the Grantees to satisfy the conditions attached to their grants, though, owing to more favourable circumstances, some have made better speed with their work than others. I may briefly note some definite results obtained by certain of the beneficiaries. Dr. Robert Munro reports that, with the aid of his grant, he and those associated with him have discovered a lake-dwelling in a loch near Kinellan, with features of special interest. In continuation of his work in the excavation of Roman remains in Scotland, Dr. George Macdonald has made fresh discoveries which are an interesting addition to our knowledge of the Roman Occupation. At Antioch, with the aid of the Trust, Sir William Ramsay has, in the course of his excavations, made what he considers an important discovery, which has attracted the attention of American and European archaeologists. Mr. Rawson Elder reports that his two theses—*The Royal Fishery Companies of the seventeenth century* and *The Highland Host of 1678*—have both been published, and have gained him the degree of D.Litt. from the University of Aberdeen, and he expresses his deep obligation to the Trust, but for whose aid he could neither have written nor have published his theses. Miss Catherine Borland has now completed her work of calendaring the Mediæval MSS. in the Library of the University of Edinburgh, and her MSS. will soon be in the hands of the printers. Another volume of Dr. Clement Gunn's "Books of the Church," illustrative of Scottish ecclesiastical history in Peeblesshire, is now in process of publication. The first volume of Professor W. M.

THIRTEENTH ANNUAL REPORT

Lindsay's *History of Mediæval Abbreviation-Symbols* is being printed by the University Press, Cambridge, though with some delay. Another work published by a grantee is Mr. J. B. Black's *Relations between England and France in the latter part of the sixteenth century*, which gained him the "Arnold Historical Prize" at Oxford. Mr. Robert MacIver has finished his book, entitled *Community: being an attempt to set out the nature and fundamental laws of social life*, and it will be published by Messrs. Macmillan by the end of the present year. With the sole aid of the Trust, the late Mr. Gavin Greig carried on his researches and published his *Older popular minstrelsy in the North-Eastern Counties of Scotland* in the current year. Mr. John S. Smart, Lecturer in English Literature at the University of Glasgow, has completed his edition of *Milton's Sonnets*, which is ready to go to press. The works that have been specified are in a state of completion, but, as will be seen from the special reports, the undertakings of other grantees, who have given in reports, are making satisfactory progress.

From the foregoing statement the Committee of the Trust may be able to form a judgment of the measure of success that has attended their scheme of research since my last Report. It seems to me to give solid ground for satisfaction. Valuable work has been done by all the classes of beneficiaries—work which, in most cases, could not have been done without its assistance. Not the least result of its encouragement is the opportunity it has given for discipline in research to many who are now holding important academic posts.

P. HUME BROWN.

1913-14

—
Appendix
B.

Research Scheme,
1913-14.

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1913-14.LIST OF PUBLICATIONS BY FELLOWS, SCHOLARS, AND
GRANTEES RECEIVED SINCE SEPTEMBER 30, 1913.

FELLOWS.

Chemistry.

ROBERT GILMOUR, D.Sc., St. Andrews; Ph.D., Würzburg (Scholar, 1908-9 and 1909-10; Fellow, 1910-11, 1911-12, and 1912-13).

A contribution to the study of the constitution of the methyl pentoses. Part I. Synthesis of an *i*-methyl tetrose and an *i*-methyl tetritol. *Trans. Chem. Soc.*, vol. 105, pp. 73-81. 9 pp., 1914.

ALEXANDER HYND, M.A., B.Sc., St. Andrews (Scholar, 1909-10 and 1910-11; Fellow, 1911-12 and 1912-13).

(With Prof. Irvine, D.Sc.)—The conversion of *d*-glucosamine into *d*-mannose. *Trans. Chem. Soc.*, vol. 105, pp. 698-710. 13 pp., 1914.

BINA MARY PATERSON, B.Sc., St. Andrews (Scholar, 1911-12 and 1912-13; Fellow, 1913-14).

(With Prof. Irvine, D.Sc.)—The influence of configuration on the condensation reactions of polyhydroxy-compounds. Part I. The constitution of mannitoltriacetone. *Trans. Chem. Soc.*, vol. 105, pp. 898-915. 18 pp., 1914.

— The formation of ethers from mannitol. An example of steric hindrance. *Trans. Chem. Soc.*, vol. 105, pp. 915-923. 9 pp., 1914.

Botany.

DOROTHY COURT, B.Sc., Edinburgh (Scholar, 1909-10 and 1910-11; Fellow, 1911-12 and 1912-13; Grantee, 1913-14).

Enzymatic peptolysis in germinating seeds. *Proc. Roy. Soc. Edin.*, vol. xxxiv., pp. 113-127. 15 pp., 1914.

ROSALIND CROSSE, B.Sc., St. Andrews (Scholar, 1910-11 and 1911-12; Fellow, 1912-13 and 1913-14).

Variations in the growing region. *Trans. and Proc. Bot. Soc. Edin.*, vol. xxvi., pp. 289-296. 2 plates, 8 pp., 1914.

Physiology.

THOMAS GRAHAM BROWN, B.Sc., M.D., Edinburgh (Grantee, 1905-6, 1907-8, 1908-9, 1909-10, and 1913-14; Fellow, 1910-11, 1911-12, and 1912-13).

Studies in the physiology of the nervous system. XIV. Immediate and successive effects of compound stimulation in spinal preparations. XV. Immediate reflex phenomena resultant upon compound stimulation in decerebrate preparations. XVI. Decerebrate preparations,

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
B.Research Scheme,
1913-14.

successive phenomena in compound reactions—stimuli of synchronous termination and stimuli of asynchronous termination where the extension-reflex is left in action. XVII. Decerebrate preparations, successive phenomena in compound reactions—stimuli of asynchronous termination where the flexion-reflex is left in action. XVIII. The successive effects of the compounding of reflexes where the “pure” reactions are abnormal (ipsilateral extension or contralateral flexion) in decerebrate preparations. XIX. The successive effects of the compounding of reflexes in the “de-afferented” condition—decerebrate preparations. XX. Rhythmic movements as immediate reflex phenomena of compound stimulation. XXI. Rhythmic movements as successive (or terminal) reflex phenomena of compound stimulation. *Quart. Jour. Exper. Physiol.*, vol. vii., pp. 197-418; vol. viii., pp. 155-228. 117 figs., 296 pp., 1914.

On the nature of the fundamental activity of the nervous centres; together with an analysis of the conditioning of rhythmic activity in progression, and a theory of the evolution of function in the nervous system. *Jour. Physiol.*, vol. xlviii., pp. 18-46. 29 pp., 1914.

ROBERT A. KRAUSE, M.B., Ch.B., D.P.H., Edinburgh (Scholar, 1911-12; Fellow, 1912-13 and 1913-14).

The excretion of creatine in severe and mild cases of diabetes mellitus. *Proc. Physiol. Soc.*, vol. xlviii. 2 pp., 1914.

The effect of acetone and aceto-acetic acid on the estimation of creatinine and creatine. *Proc. Physiol. Soc.*, vol. xlviii. 2 pp., 1914.

Physics.

JOHN DOUGALL, M.A., D.Sc., Glasgow (Fellow, 1909-10 and 1910-11).

An analytical theory of the equilibrium of an isotropic elastic rod of circular section. *Trans. Roy. Soc. Edin.*, vol. xlix., pt. iv., pp. 895-978. 84 pp., 1914.

MARGARET B. MOIR, M.A., B.Sc., Glasgow (Scholar, 1909-10 and 1910-11; Fellow, 1911-12, 1912-13, and 1913-14).

The magnetic properties of a graded series of chrome steels at ordinary and low temperatures. *Philos. Mag.*, May, pp. 830-842. 13 pp., 1914.

Zoology.

LAURA FLORENCE, M.A., B.Sc., Aberdeen (Scholar, 1909-10 and 1910-11; Fellow, 1911-12 and 1912-13; Grantee, 1913-14).

The food of birds. Report for the years 1911-12. *Trans. High. and Agric. Soc. Scot.* 74 pp., 1914.

Pathology.

THOMAS J. MACKIE, M.B., Ch.B., Glasgow (Grantee, 1911-12; Scholar, 1912-13; Fellow, 1913-14).

(With Carl H. Browning, M.D.)—The preservation of complement by freezing. A further contribution on the constitution of complement. *Jour. Path. and Bacter.*, vol. xviii., pp. 442-444. 3 pp., 1914.

1913-14

THE CARNEGIE TRUST

—
Appendix
B.Research Scheme,
1913-14.

(With Carl H. Browning, M.D.)—Studies on complement action; with special reference to the fractioning of complement by means of ammonium sulphate. *Zeitsch. f. Immunitätsfor. u. experim. Therapie*, xxi. Bd., S. 422-446. 25 pp., 1914.

(With Carl H. Browning, M.D., and W. Gilmour, M.B.)—The isolation of typhoid bacilli from fæces by means of brilliant green in fluid medium. *Jour. of Hygiene*, vol. xiii., no. 3, pp. 335-342. 8 pp., 1913.

(With Carl H. Browning, M.D., and J. F. Smith, M.B.)—The isolation of *B. typhosus* from fæces by the use of potassium tellurate along with brilliant green in fluid medium. *Jour. Path. and Bacter.*, vol. xix., pp. 127-129. 3 pp., 1914.

Experimental Psychology.

WILLY ERNST PETERS, M.A., Aberdeen (Scholar, 1910-11; Grantee, 1911-12 and 1912-13; Fellow, 1913-14).

Two methods of enlarging gramophone records. *Vox, Hft. 5*, pp. 261-272. 12 pp., 1913.

History.

MARGARET F. MOORE, M.A., Edinburgh (Scholar, 1909-10 and 1910-11; Fellow, 1911-12, 1912-13, and 1913-14).

(With Hubert Hall, F.S.A., etc.)—A select bibliography for the study, sources, and literature of English economic history. 350 pp., 1914.

SCHOLARS.

Engineering.

WILLIAM J. WALKER, B.Sc. (Engin.), St. Andrews (Scholar, 1913-14).

On the relationship between the viscosity, density, and temperature of salt solutions. *Philos. Mag.*, ser. 6, vol. 27, pp. 288-297. 1 plate, 10 pp., 1914.

On the efficiency of internal combustion engines as affected by water injection. *Internal Combustion Engineering*, vol. v., pp. 141-144. 4 pp., 1914.

Geology.

JOHN B. ROBERTSON, M.A., B.Sc., Edinburgh (Scholar, 1912-13 and 1913-14).

A chemical examination of the organic matter in oil-shales. *Proc. Roy. Soc. Edin.*, vol. xxxiv., pt. ii., pp. 190-201. 12 pp., 1914.

ALEXANDER SCOTT, M.A., B.Sc., Glasgow (Scholar, 1912-13 and 1913-14).

Augite from Bail Hill, Dumfriesshire. *Mineral. Mag.*, vol. xvii., no. 79, pp. 100-110. 11 pp., 1914.

(With B. K. N. Wyllie, M.A., B.Sc.)—The plutonic rocks of Garabal Hill. *Geol. Mag.*, n. s., vol. x., pp. 499-508, 536-545. 20 pp., 1913.

THIRTEENTH ANNUAL REPORT

1913-14

BRYCE K. N. WYLLIE, M.A., B.Sc., Glasgow (Scholar, 1912-13).

(With Alex. Scott, M.A., B.Sc.)—The plutonic rocks of Garabal Hill. *Geol. Mag., n. s., vol. x., pp. 499-503, 536-545.* 20 pp., 1913.

Appendix

B.

Research Scheme,
1913-14.**Chemistry.**

WILLIAM C. FORSYTH, B.Sc., Glasgow (Scholar, 1912-13).

(With Dr. T. S. Patterson)—The influence of solvents on the rotation of optically active compounds. Part XIX. The rotation of certain derivatives of lactic acid. *Trans. Chem. Soc., vol. 103, pp. 2263-2271.* 9 pp., 1913.

ALEXANDER W. FYFE, M.A., B.Sc., St. Andrews (Scholar, 1912-13 and 1913-14).

(With Prof. Irvine, D.Sc.)—The reactions of α -amino- β -hydroxy compounds as cyclic structures. *Trans. Chem. Soc., vol. 105, pp. 1642-1656.* 15 pp., 1914.(With W. N. Haworth, D.Sc.)—Synthetic hydrocarbons allied to the terpenes. *Trans. Chem. Soc., vol. 105, pp. 1659-1671.* 13 pp., 1914.

THOMAS P. HOGG, M.A., B.Sc., St. Andrews (Scholar, 1913-14).

(With Prof. Irvine, D.Sc.)—Partially methylated glucoses. Part III. Monomethyl glucose. *Trans. Chem. Soc., vol. 105, pp. 1386-1396.* 11 pp., 1914.

HELEN REID INNES, B.Sc., Aberdeen (Scholar, 1913-14).

(With Joseph Knox, D.Sc.)—Compounds of phenanthraquinone with metallic salts. *Trans. Chem. Soc., vol. 105, pp. 1451-1456.* 6 pp., 1914.

NELLIE WALKER, M.A., B.Sc., St. Andrews (Scholar, 1913-14).

(With John K. Wood, D.Sc.)—The oxidation of carbohydrates and related substances by means of potassium persulphate. *Trans. Chem. Soc., vol. 105, pp. 1131-1140.* 10 pp., 1914.

HILDA WOODHOUSE, M.A., B.Sc., St. Andrews (Scholar, 1912-13 and 1913-14).

(With W. S. Denham, D.Sc.)—The action of sulphur chloride and of thionyl chloride on metallic salts of organic acids: preparation of anhydrides. *Trans. Chem. Soc., vol. 103, pp. 1861-1870.* 10 pp., 1913.**Botany.**

HARRIET E. ALLISON, B.Sc., Glasgow (Scholar, 1910-11 and 1911-12).

On the vascular anatomy of the rhizome of *Platyserium*. *New Phytologist, vol. xii., nos. 9 and 10, pp. 311-321.* 5 figs., 11 pp., 1913.**Agriculture.**

HENRY H. GREEN, B.Sc., Glasgow (Scholar, 1911-12).

Investigations into the nitrogen metabolism of soil. *Centralbl. f. Bakter., Parasit., u. Infektionskr., Abteil. II., Bd. 41, S. 577-608.* 32 pp., 1914.

[Mr. Green is now bio-chemist to the Division of Veterinary Research, Dept. of Agric., Union of S. Africa.]

THE CARNEGIE TRUST

1913-14

—
Appendix
B.Research Scheme,
1913-14.

KENNETH MACLENNAN, B.Sc. (Agric.), Aberdeen (Scholar, 1912-13 and 1913-14).

(With H. B. Hutchinson)—The determination of the lime requirements of the soil. *Chem. News*, vol. 110, pp. 61-66. 6 pp., 1914.

Zoology.

LEWIS N. G. RAMSAY, M.A., B.Sc., Aberdeen (Scholar, 1913-14).

On leptonereis glauca *Clpde.*, and the genus leptonereis *Kinberg.* *Jour. Mar. Biol. Assoc., U.K.*, vol. x., pp. 244-252. 1 plate, 9 pp., 1914.Polychæta of the family nereidæ, collected by the Scottish National Expedition (1902-1904). *Trans. Roy. Soc. Edin.*, vol. i., pt. i., pp. 41-48. 1 plate, 8 pp., 1914.

Pathology.

AGNES ELLEN PORTER, M.D., D.P.H., Edinburgh (Scholar, 1912-13 and 1913-14).

On the behaviour of trypsin in the presence of a specific precipitate. *Biochem. Jour.*, vol. viii., no. 1, pp. 50-53. 9 pp., 1914.

JOHN FERGUSON SMITH, M.A., M.B., Ch.B., Glasgow (Scholar, 1913-14).

The isolation of *B. Diphtheriæ* by means of a simple medium containing potassium tellurate. *Proc. Path. Soc. of G. B. and I.*, June. 2 pp., 1914.(With Carl H. Browning, M.D., and Thomas J. Mackie, M.B.)—The isolation of *B. typhosus* from fæces by the use of potassium tellurate along with brilliant green in fluid medium. *Jour. Path. and Bacter.*, vol. xix., pp. 127-129. 3 pp., 1914.

Modern Languages and Literature.

GORDON C. DONALD, M.A., Aberdeen; Dr. Phil., Marburg (Scholar, 1913-14).

Zur Entwicklung des Prosastils in der Sachsenchronik. Inaugural Dissertation . . . 69 pp., 1914.

GRANTEES.

Physics.

GEORGE A. CARSE, M.A., D.Sc., Lecturer in Natural Philosophy, University of Edinburgh (Grantee, 1904-5, 1907-8, and 1912-13).

Note on atmospheric electric potential results at Edinburgh during 1912. *Jour. Scott. Meteor. Soc.*, 3rd ser., vol. xvi., no. xxx. 2 pp., 1913.(With G. Shearer, M.A., B.Sc.)—Atmospheric electric potential results at Edinburgh during 1912. *Proc. Roy. Soc. Edin.*, vol. xxxviii., pt. iv., pp. 317-332. 16 pp., 1913.

THIRTEENTH ANNUAL REPORT

1913-14

Chemistry.

Appendix
B.Research Scheme,
1913-14.

WALTER N. HAWORTH, D.Sc., Ph.D., Lecturer in Chemistry, University of St. Andrews (Grantee, 1913-14).

(With Alex. W. Fyfe, M.A., B.Sc.)—Synthetic hydrocarbons allied to the terpenes. *Trans. Chem. Soc.*, vol. 105, pp. 1659-1671. 13 pp., 1914.

(With Albert T. King)—The constitution of camphene. Part II. Experiments on the synthesis of several degradation products of camphene. *Trans. Chem. Soc.*, vol. 105, pp. 1342-1351. 10 pp., 1914.

Professor GEORGE G. HENDERSON, D.Sc., LL.D., Royal Technical College, Glasgow (Grantee, 1903-4, 1904-5, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

Contributions to the chemistry of the terpenes. Part XVII. The action of hypochlorous acid on camphene. Part XVIII. (With Maggie M. J. Sutherland, B.Sc.)—Camphenanic acid and its isomerides. *Trans. Chem. Soc.*, vol. 105, pp. 1367-1372 and 1710-1718. 15 pp., 1914.

(With J. A. R. Henderson and Isidor M. Heilbron)—Über die selektive Absorption von Ketonen. *Ber. d. deutsch. chem. Gesellschaft.*, Jg., xxxvii., Hft. 5, S. 876-887. 12 pp., 1914.

Professor JAMES C. IRVINE, D.Sc., Ph.D., University of St. Andrews (Fellow, 1903-4, 1904-5, and 1905-6; Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

(With Thomas P. Hogg, M.A., B.Sc.)—Partially methylated glucoses. Part III. Monomethyl glucose. *Trans. Chem. Soc.*, vol. 105, pp. 1386-1396. 11 pp., 1914.

(With Alex. W. Fyfe, M.A., B.Sc.)—The reactions of α -amino- β -hydroxy compounds as cyclic structures. *Trans. Chem. Soc.*, vol. 105, pp. 1642-1656. 15 pp., 1914.

(With Alex. Hynd, M.A., B.Sc.)—The conversion of *d*-glucosamine into *d*-mannose. *Trans. Chem. Soc.*, vol. 105, pp. 698-710. 13 pp., 1914.

(With Bina M. Paterson, B.Sc.)—The influence of configuration on the condensation reactions of polyhydroxy-compounds. Part I. The constitution of mannitoltriacetone. *Trans. Chem. Soc.*, vol. 105, pp. 898-915. 18 pp., 1914.

— The formation of ethers from mannitol. An example of steric hindrance. *Trans. Chem. Soc.*, pp. 915-923. 9 pp., 1914.

THOMAS S. PATTERSON, D.Sc., Ph.D., Lecturer in Organic Chemistry, University of Glasgow (Grantee, 1906-7, 1907-8, 1912-13, and 1913-14).

The influence of solvents on the rotation of optically active compounds. Part XIX. (With W. C. Forsyth, B.Sc.)—The rotation of certain derivatives of lactic acid. *Trans. Chem. Soc.*, vol. 108, pp. 2263-2271. 9 pp., 1913.

1913-14

THE CARNEGIE TRUST

Appendix

B.

Research Scheme,
1913-14.

Physical Chemistry.

FREDERICK SODDY, M.A., F.R.S., Lecturer in Physical Chemistry, University of Glasgow (Grantee, 1906-7, 1908-9, and 1910-11).

(With Henry Hyman)—The atomic weight of lead from Ceylon thorite. *Trans. Chem. Soc.*, vol. 105, pp. 1402-1408. 7 pp., 1914.

[Mr. Soddy is now Professor of Chemistry, University of Aberdeen.]

Agriculture.

JOHN HUNTER SMITH, B.Sc. (Agric.), Glasgow (Grantee, 1912-13).

(With Prof. Löhnis)—Die Veränderungen des Stalldüngers während der Lagerung und seine Wirkung im Boden. *Fühlings Landwirtsch. Zeitung*, 63. Jahrg., Hft. 5, S. 153-167. 15 pp., 1914.

Botany.

JOHN McLEAN THOMPSON, M.A., B.Sc., Assistant in Botany, University of Glasgow (Grantee, 1913-14).

Studies in floral zygomorphy. I. The initiation of staminal zygomorphy. *Trans. Roy. Soc. Edin.*, vol. xlix., pt. iii., pp. 691-704. 2 plates, 14 pp., 1913.

Zoology.

WILLIAM S. BRUCE, LL.D., Aberdeen (Grantee, 1913-14).

On the skulls of Antarctic seals: Scottish National Antarctic Expedition. *Trans. Roy. Soc. Edin.*, vol. xlix., pt. ii., pp. 345-346. 5 plates, 2 pp., 1913.

Measurements and weights of Antarctic seals taken by the Scottish National Antarctic Expedition. *Trans. Roy. Soc. Edin.*, vol. xlix., pt. iii., pp. 567-577. 2 plates, 11 pp., 1913.

Professor WM. C. McINTOSH, M.D., F.R.S., University of St. Andrews (Grantee, 1903-4, 1905-6, 1906-7, 1907-8, 1908-9, 1909-10, 1911-12, and 1913-14).

Notes from the Gatty Marine Laboratory, St. Andrews. *No. xxxvi., Ann. and Mag. Nat. Hist., ser. 8, vol. xviii., pp. 77-110.* 2 plates, 34 pp., 1914.

EDWARD W. SHANN, B.Sc., Lecturer in Comparative Embryology, University of St. Andrews (Grantee, 1913-14).

On the nature of the lateral muscle in teleostei. *Proc. Zool. Soc., Lond.*, no. xxvii., pp. 319-337. 19 pp., 1914.

Rev. JAMES WATERSTON, B.D., B.Sc., Edinburgh (Grantee, 1913-14).

An account of the bird-lice of the genus *docophorus* (mallophaga) found on British auks. *Proc. Roy. Phys. Soc. Edin.*, vol. xix., pp. 149-158. 10 pp., 1914.

On some octoparasites in the South African Museum, Cape Town. *Ann. S. A. Museum*, vol. x., pp. 271-324. 2 plates, 54 pp., 1914.

THIRTEENTH ANNUAL REPORT

1913-14

Physiology.

Appendix

B.

Research Scheme,
1913-14.

ALEXANDER NINIAN BRUCE, D.Sc., M.D., Lecturer in the Physiology of the Nervous System, University of Edinburgh (Scholar, 1910-11; Grantee, 1912-13 and 1913-14).

The arcuate nucleus in man, the anthropoid apes, and the microcephalic idiot. *Rev. Neurol. and Psychiat., Feb.* 2 plates, 3 pp., 1914.

DAVID BURNS, M.A., B.Sc., Muirhead Demonstrator in Physiology, University of Glasgow (Scholar, 1911-12; Grantee, 1912-13 and 1913-14).

(With J. B. Orr, M.B.)—The influence of excessive water ingestion on the excretion of creatin and creatinin. *Brit. Med. Jour., Sept. 19.* 3 pp., 1914.

EDWARD P. CATHCART, M.D., D.Sc., Grieve Lecturer in Chemical Physiology, University of Glasgow (Grantee, 1906-7, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

(With Geo. H. Clark, M.B.)—The influence of carbone dioxide on the heart in varying degrees of anæsthesia. *Jour. of Physiol., vol. xlvii., pp. 393-406.* 6 figs., 14 pp., 1913.

GEORGE HERBERT CLARK, M.B., Ch.B., D.P.H., Assistant in Physiology, University of Glasgow (Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

(With E. P. Cathcart, M.D.)—The influence of carbone dioxide on the heart in varying degrees of anæsthesia. *Jour. of Physiol., vol. xlvii., pp. 393-406.* 6 figs., 14 pp., 1913.

Professor PERCY T. HERRING, M.D., University of St. Andrews (Grantee, 1908-9, 1909-10, 1912-13, and 1913-14).

The origin of the active material of the posterior lobe of the pituitary body. *Quart. Jour. Exper. Physiol., vol. viii., pp. 245-265.* 14 figs., 21 pp., 1914.

The physiological activity of the pars intermedia and pars nervosa of the ox pituitary quantitatively compared. *Quart. Jour. Exper. Physiol., vol. viii., pp. 267-274.* 6 figs., 8 pp., 1914.

A comparison of the activity of extracts of the pars intermedia and pars nervosa of the ox pituitary. *Brit. Assoc., Australia.* 1 p., 1914.

JAMES ARTHUR HEWITT, B.Sc., Assistant in Physiology, University of St. Andrews (Grantee, 1913-14).

The influence on metabolism of administration of small amounts of thyroid gland and of anterior lobe of pituitary. Parts I. and II. *Quart. Jour. Exper. Physiol., vol. viii., pp. 113-124 and pp. 297-302.* 18 pp., 1914.

THOMAS W. E. ROSS, M.D., Edinburgh (Grantee, 1913-14).

Some observations on the nerve supply of the inferior turbinal as shown by vital staining. *Jour. Laryngol. Rhinol. and Otol., vol. xxviii., no. 2.* 13 figs., 12 pp., 1913.

1913-14

THE CARNEGIE TRUST

Appendix

B.

Research Scheme,
1913-14.

Pathology.

CARL H. BROWNING, M.D., Lecturer in Clinical Pathology, University of Glasgow (Fellow, 1904-5, 1905-6, and 1906-7; Grantee, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

(With T. J. Mackie, M.B.)—The preservation of complement by freezing. A further contribution on the constitution of complement. *Jour. Path. and Bacter.*, vol. xviii., pp. 442-444. 3 pp., 1914.

— Studies on complement action; with special reference to the fractioning of complement by means of ammonium sulphate. *Zeitsch. f. Immunitätsfor. u. experim. Therapie*, xxi. Bd., S. 422-446. 25 pp., 1914.

(With W. Gilmour, M.B., and T. J. Mackie, M.B.)—The isolation of typhoid bacilli from fæces by means of brilliant green in fluid medium. *Jour. of Hygiene*, vol. xiii., no. 3, pp. 335-342. 8 pp., 1913.

(With T. J. Mackie, M.B., and J. F. Smith, M.B.)—The isolation of *B. typhosus* from fæces by the use of potassium tellurate along with brilliant green in fluid medium. *Jour. Path. and Bacter.*, vol. xix., pp. 127-129. 3 pp., 1914.

JOHN CRUICKSHANK, M.B., Ch.B. (Glasgow), Crichton Royal Institution, Dumfries (Grantee, 1911-12, 1912-13, and 1913-14).

The iodine values of lecithins. *Jour. Path. and Bacter.*, vol. xviii., pp. 428-431. 4 pp., 1914.

JOHN FRASER, M.D., Ch.M., Edinburgh (Grantee, 1910-11, 1911-12, 1912-13, and 1913-14).

Tuberculosis of the bones and joints in children. 51 plates, 164 figs., and 352 pp., 1914.

JOHN SMITH FRASER, M.B., Ch.B., Edinburgh (Grantee, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

Labyrinth suppuration: a review. 14 pp., 1914.

A case of acute suppurative otitis media, purulent labyrinthitis and leptomeningitis without rupture of the tympanic membrane. *Edin. Med. Jour.*, vol. xii., no. 5. 12 figs., 9 pp., 1914.

(With D. K. Henderson, M.D., and Winifred Muirhead)—A case of toxic exhaustive insanity, associated with chronic suppurative otitis media, labyrinthitis, and extra-dural abscess. *Rev. Neurol. and Psychiat.*, Nov. 4 plates, 12 pp., 1913.

W. BLAIR M. MARTIN, M.D., Lecturer in Bacteriology, University of Glasgow (Scholar, 1906-7; Fellow, 1907-8, 1908-9, 1909-10, and 1910-11; Grantee, 1911-12, 1912-13, and 1913-14).

(With Geo. A. Allan, M.B.)—Tuberculous meningitis (bovine infection) in an infant aged 12 weeks. *Lancet*, Nov. 29. 4 pp., 1913.

ALEXANDER P. MITCHELL, Ch.M., M.D., Edinburgh (Grantee, 1911-12, 1912-13, and 1913-14).

Report on the infection of children with the bovine tubercle bacillus. *Brit. Med. Jour.*, Jan. 17. 3 figs., 33 pp., 1914.

THIRTEENTH ANNUAL REPORT

1913-14

The milk question in Edinburgh. *Edin. Med. Jour.*, April. 2 plates, 10 pp., 1914.

A bacteriological study of tuberculosis of the lymph glands in children. *Edin. Med. Jour.*, Sept. 7 pp., 1914.

JAMES WATT, M.A., M.B., D.P.H., Assistant in Forensic Medicine, University of Aberdeen (Grantee, 1913-14).

Paratyphoid fever associated with an epidemic of typhoid fever. *Lancet*, July 19. 9 pp., 1913.

Appendix
B.

Research Scheme,
1913-14.

Archæology.

Sir WILLIAM M. RAMSAY, M.A., LL.D., Aberdeen (Grantee, 1903-4, 1904-5, 1906-7, 1907-8, 1912-13, and 1913-14).

Sketches in the religious antiquities of Asia Minor. *Ann. Brit. Sch. Athens*, no. xviii., pp. 37-79. 4 plates, 43 pp., 1912.

History.

JOHN RAWSON ELDER, M.A., Aberdeen (Grantee, 1911-12, 1912-13, and 1913-14).

The Highland Host of 1678. 156 pp., 1914.

JAMES GRANT, M.A., Aberdeen; LL.B., Edinburgh (Grantee, 1909-10 and 1911-12).

The old Scots Navy from 1689 to 1710. lix. and 448 pp., 1914.

CLEMENT B. GUNN, M.D., Edinburgh (Grantee, 1905-6, 1909-10, 1910-11, 1911-12, and 1913-14).

The book of the Cross Kirk, Peebles, A.D. 1690-1784. 202 pp., 1914.

Professor W. M. LINDSAY, LL.D., University of St. Andrews (Grantee, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).

The Laon az-type. 2 plates, 13 pp., 1914.

WILLIAM S. M'KECHNIE, M.A., LL.B., D.Phil., Lecturer in Constitutional Law and History, University of Glasgow (Grantee, 1913-14).

Magna Carta. A commentary on the great charter of King John, with an historical introduction. Second edition. 530 pp., 1914.

Modern Languages and Literature.

GAVIN GREIG, M.A., Aberdeen (Grantee, 1905-6, 1906-7, 1907-8, 1908-9, and 1913-14).

Folk-song of the North-East. Second series. 1914.

GEORG SCHAAFFS, M.A., Ph.D., Lecturer in German, University of St. Andrews (Grantee, 1909-10, 1910-11, 1912-13, and 1913-14).

Ein Fehler im Urfaust und seine Folgen. III. u. IV. *Zeitsch. f. Buckerfreunde*, N. F., V., Bd. 2., S. 378-392. 15 pp., 1914.

Zwei Divangedichte. I. *Mod. Lang. Notes*, April. 3 pp., 1914.

Von vornherein. *Chronik d. Wiener Goethe-Vereins*, Bd. xxvii., S. 28-39. 12 pp., 1914.

Misel nebst Abteilungen bei Goethe. *Zeitsch. f. d. deutsch. Unterricht*, 28 Jahrg., 7 u. 8 Hft., S. 509-521. 13 pp., 1914.

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1913-14.RESEARCH FELLOWSHIPS, SCHOLARSHIPS, AND GRANTS
FOR ACADEMIC YEAR 1913-14.

SUMMARY OF AWARDS AND PAYMENTS.

1. DISTRIBUTION OF AWARDS OVER THE VARIOUS DEPARTMENTS OF SCIENCE.

	PHYSICS.			CHEMISTRY.			NATURAL HISTORY.			MEDICINE.			HISTORY.							
	No.	Amount.			No.	Amount.			No.	Amount.			No.	Amount.						
		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.				
Fellowships,	3	390	0	0	4	600	0	0	1	150	0	0	7	1050	0	0				
Expenses of																				
Fellows,	21	0	0	...	14	0	0	100	0	0	...	75	0	0		
Scholarships,	6	625	0	0	12	1134	0	0	5	490	0	0	5	500	0	0	13	1325	0	0
Grants, .	9	265	0	0	6	129	0	0	13	464	0	0	34	835	0	0	29	1260	0	0
Totals, .	18	1301	0	0	22	1877	0	0	19	1104	0	0	46	2485	0	0	47	3410	0	0

NOTE.—*Physics* includes Mathematics, Physics, Engineering, Geology, Palæontology, Geography, and Meteorology; *Natural History* includes Botany, Mycology, Agriculture, Forestry, and Zoology; *Medicine* includes Anatomy, Anthropology, Physiology, Experimental Psychology, Pharmacology, Pathology, Neurology, Surgery, Therapeutics, and Public Health; *History* includes Archæology, History, Economics, and Modern Languages and Literature.

2. DISTRIBUTION OF AWARDS OVER THE FOUR UNIVERSITY CENTRES.

	ST. ANDREWS.			GLASGOW.			ABERDEEN.			EDINBURGH.			TOTALS.			
	No.	Amount.			No.	Amount.			No.	Amount.			No.	Amount.		
		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.
Fellowships,	3	450	0	0	7	1050	0	0	3	450	0	0	7	990	0	0
Expenses of																
Fellows, .	...	4	0	0	...	125	0	0	...	50	0	0	...	31	0	0
Scholarships,	10	1000	0	0	8	759	0	0	9	925	0	0	14	1390	0	0
Grants, .	13	365	0	0	32	776	0	0	21	697	0	0	25	1115	0	0
Totals, .	26	1819	0	0	47	2710	0	0	33	2122	0	0	46	3526	0	0

3. DISTRIBUTION OF PAYMENTS OVER THE FOUR UNIVERSITY CENTRES.

	ST. ANDREWS.			GLASGOW.			ABERDEEN.			EDINBURGH.			TOTALS.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Fellowships,	325	0	0	737	10	0	450	0	0	740	0	0	2252	10	0
Expenses of															
Fellows, .	...			68	13	7	32	3	2	30	7	9	131	4	6
Scholarships,	775	0	0	534	0	0	675	0	0	932	10	0	2916	10	0
Grants, .	268	17	9	384	5	8	650	5	3	1049	1	7	2352	10	3
Totals, .	1368	17	9	1724	9	3	1807	8	5	2751	19	4	7652	14	9

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
B.Research Scheme,
1914-15.II. AWARDS OF FELLOWSHIPS, SCHOLARSHIPS, AND GRANTS
FOR ACADEMIC YEAR 1914-15.

The Fellows and Scholars marked by an asterisk in the following list are at present on military duty. The Fellowship or Scholarship will be kept open in case he should find it possible to resume his research work at the conclusion of the war.

FELLOWSHIPS.

PHYSICS.—1. Frederick F. S. Bryson, M.A., Edinburgh ; B.Sc., Glasgow (Scholar, 1912-13 and 1913-14).—(1) *Examination of certain lines in the spectra of various metals under various conditions of the source.* (2) *The relative intensities of the satellites and the changes in the intensities, etc.*

CHEMISTRY.—2. Alexander W. Fyfe, M.A., B.Sc., St. Andrews (Scholar, 1912-13 and 1913-14).—*The synthesis of glucopeptides.*

3. James A. R. Henderson, D.Sc., Glasgow (Fellow, 1913-14).—*Spectrographical examination of a series of homologous compounds, etc.*

4. *James L. A. Macdonald, B.Sc., St. Andrews (Scholar, 1912-13 and 1913-14).—*The synthesis of ring-compounds by the condensation of mesoxalic ester with ethereal salts.*

5. Bina Mary Paterson, B.Sc., St. Andrews (Scholar, 1911-12 and 1912-13 ; Fellow, 1913-14).—(1) *The possible occurrence of natural amino glucosides.* (2) *Synthesis of amino-acyl glucosides.* (3) *Application of Böeseken's conductivity method to alkylated hydroxy compounds.*

(Resigned on appointment as Demonstrator in Chemistry, Bedford College for Women, London.)

6. Marion B. Richards, M.A., B.Sc., Aberdeen (Scholar, 1909-10 and 1910-11).—(1) *The mutual solubility of partially miscible liquids.* (2) *Compound-formation between ethers and alkyl halogen compounds.* (3) *The property-composition curves of mixed liquids.*

7. Hilda Woodhouse, M.A., B.Sc., St. Andrews (Scholar, 1912-13 and 1913-14).—(1) *The methylation of cellulose.* (2) *The hydrolytic decomposition of the methylated celluloses.*

PHYSICAL CHEMISTRY.—8. Alexander Fleck, B.Sc., Glasgow.—(1) *The β rays from thorium—X.* (2) *The chemical nature of the products of double disintegration.*
(Resigned on appointment as Physical Chemist to Glasgow Radium Committee.)

AGRICULTURE.—9. *Kenneth MacLennan, B.Sc. (Agric.), Aberdeen (Scholar, 1912-13 and 1913-14).—*The isolation and classification of soil bacteria.*

ANATOMY.—10. Chung Ching Wang, M.B., Ch.B., Edinburgh (Scholar, 1912-13 and 1913-14).—*Development of the heart of the ferret and the reconstructions of the stages, etc.*

11. Robert Bruce Young, M.A., D.Sc., M.B., C.M., Glasgow.—*The anatomy of the joints.*

PHYSIOLOGY.—12. Ernest W. H. Cruickshank, M.B., Ch.B., Aberdeen.—*The fat metabolism in diabetes.*

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1914-15.

- EXPERIMENTAL PSYCHOLOGY.—13. Willy Ernst Peters, M.A., Aberdeen (Scholar, 1910-11; Grantee, 1911-12 and 1912-13; Fellow, 1913-14).—(1) *Intonation, time, and intensity curves of languages.* (2) *The physiological, psychological, and phonetic facts underlying the Rutz method.*
- PATHOLOGY.—14. *Thomas Jones Mackie, M.B., Ch.B., Glasgow (Grantee, 1911-12; Scholar, 1912-13; Fellow, 1913-14).—(1) *Complement action and other immunity problems.* (2) *Influence of certain chemical substances on the growth of various micro-organisms, etc.*
15. Agnes Ellen Porter, M.D., D.P.H., Edinburgh (Scholar, 1912-13 and 1913-14).—(1) *An analysis of the fats contained in tubercle bacilli.* (2) *The cobra venom test in tuberculosis.*
- HISTORY.—16. *William B. Gray, M.A., Edinburgh (Scholar, 1912-13 and 1913-14).—*The administration of Scotland from 1660 to 1688.*
- ECONOMICS.—17. William Peters, M.A., Aberdeen (Fellow, 1913-14).—*Credit in Russia.*
18. Mary Theresa Rankin, M.A., Edinburgh (Scholar, 1911-12 and 1912-13).—*The kinds of employment of women in Scotland, with reference to the changes in the employments and in the relative wages.*
- MODERN LANGUAGES AND LITERATURE.—19. Jane J. Milne, M.A., Edinburgh (Scholar, 1912-13 and 1913-14).—*The comic element in French and English mystery plays.*
20. Mary Paton Ramsay, M.A., Aberdeen (Scholar, 1911-12 and 1912-13; Fellow, 1913-14).—*Donne as a mystic, and the doctrines of his followers.*

SCHOLARSHIPS.

- PHYSICS.—1. William Polson, M.A., Aberdeen.—(1) *The magnetic properties of the chemical elements and their compounds.* (2) *The nature and sources of atmospheric electricity.* (3) *The variation with temperature of thermal conductivity.*
- ENGINEERING.—2. William J. Walker, B.Sc. (Engin.), St. Andrews (Scholar, 1913-14).—*The distribution of heat in a gas-engine cylinder, and its variation with a variation in the speed of the engine, etc.*
(Resigned on appointment as Lecturer in Mechanical Engineering, School of Technology, University of Manchester.)
- GEOLOGY.—3. Alexander Stevens, M.A., B.Sc., Glasgow (Grantee, 1913-14).—(1) *Metamorphic rocks of the Southern Highlands.* (2) *Meteorological and climatological problems, with special reference to the British Isles, etc.*
(Resigned on appointment as Geographer and Geologist to Ross Sea Party, Antarctic Expedition.)
- CHEMISTRY.—4. *John S. W. Boyle, M.A., B.Sc., St. Andrews.—*The Walden Inversion encountered in the transformation of glucosamine into glucose.*
5. James S. Dick, B.Sc., St. Andrews (Scholar, 1913-14).—(1) *The constitution of maltose.* (2) *The synthesis of disaccharides.*
6. Thomas P. Hogg, M.A., B.Sc., St. Andrews (Scholar, 1913-14).—*The conversion of glucosamine into a hexose.*
7. Helen R. Innes, B.Sc., Aberdeen (Scholar, 1913-14).—(1) *The compounds of phenanthraquinone with metallic salts and the basic properties of phenanthraquinone.* (2) *The solubility of sparingly soluble salts.*
8. Grace C. Leitch, M.A., B.Sc., St. Andrews.—*The use of halogen derivatives of alkylated mannitols in syntheses.*
9. *James Mackay, B.Sc., St. Andrews.—*The synthesis of fenchone.*

THIRTEENTH ANNUAL REPORT

1913-14

Appendix

B.

Research Scheme,
1914-15.

10. Alexander D. Mudie, M.A., B.Sc., St. Andrews.—*The synthesis and constitution of amino-helicin.*
(Resigned on appointment as Science Master, Pietermaritzburg College, Natal.)
11. Charles W. Soutar, M.A., B.Sc., St. Andrews.—*The condensation of benzaldehyde with polyhydroxy compounds.*
12. Nellie Walker, M.A., B.Sc., St. Andrews (Scholar, 1913-14).—*The optically active phenylbromoacetic acids.*
13. *Robert Scott Wishart, M.A., B.Sc., Edinburgh.—*Polyketones.*
- PHYSICAL CHEMISTRY.—14. John A. Cranston, B.Sc., Glasgow (Scholar, 1913-14).—*The chemistry of the radio-active elements.*
15. Ada F. R. Hitchins, B.Sc., Glasgow.—*The condensation of the radium and thorium emanations.*
16. John E. Ritchie, M.A., B.Sc., Aberdeen.—(1) *Physico-chemical properties of iodine solutions.* (2) *Magnetic study of molecular compounds.*
- AGRICULTURAL CHEMISTRY.—17. Daniel G. O'Brien, M.A., B.Sc., Glasgow.—*Plant food in the soil.*
(Resigned owing to arrangements for going to Leipzig being cancelled on account of the war.)
- BOTANY.—18. Flora M. Scott, M.A., B.Sc., St. Andrews.—*Anatomical and physiological phenomena underlying the process of propagation of plants by cuttings.*
19. Alexander S. Watt, M.A., B.Sc. (Agric.), Aberdeen.—*Surface vegetation as an indication of timber-bearing capacity of soil.*
20. Sophie J. Wilkie, B.Sc., St. Andrews.—*Periodic variation in transpiration in plants.*
- AGRICULTURE.—21. William Weir, M.A., B.Sc. (Agric.), Aberdeen (Scholar, 1913-14).—*The soluble nitrogenous compounds of the soil and their effect on soil fertility.*
- ZOOLOGY.—22. Charles Carnegie, B.Sc., Aberdeen.—*Insecticidal value of certain chemical substances in reference to the wireworm.*
23. *James W. Low, B.Sc., Edinburgh.—*The anatomy and histology of annelid worms.*
- BIOLOGY.—24. Isabella Leitch, M.A., B.Sc., Aberdeen.—*Special studies in cytology, etc.*
- ANATOMY.—25. Charles G. Lambie, M.B., Ch.B., Edinburgh.—*The premaxillary element of the skull.*
(Resigned owing to change of plans.)
- PHYSIOLOGY.—26. Robert M'Call, M.A., B.Sc., Edinburgh.—*The nature and properties of the internal secretions.*
- PATHOLOGY.—27. John H. Boag, M.B., Ch.B., Edinburgh.—*The relationship of anaphylaxis to susceptibility to infection.*
(Resigned.)
28. Disney H. D. Cran, M.B., Ch.B., Edinburgh.—*The effect of injections of the various members of acid-fast group of organisms into the animal body.*
29. *John Ferguson Smith, M.A., M.B., Ch.B., Glasgow (Scholar, 1913-14).—*The causation of ozaena.*
30. Chung Yik Wang, M.B., Ch.B., Edinburgh; B.Sc. (Public Health), Manchester.—(1) *The incidence of tuberculous infection in man.* (2) *The presence or absence of tubercle bacilli in the cervical, bronchial, or mesenteric glands.*
- HISTORY.—31. Margaret I. Adam, M.A., Edinburgh (Scholar, 1913-14).—*Emigration from Scotland to the Colonies, 1600-1850, and an examination of the causes.*
32. Arthur Birnie, M.A., Edinburgh.—*A monograph on Joseph Ewart, British envoy at Berlin from 1787 to 1792.*

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1914-15.

33. Janet G. MacGregor, M.A., Edinburgh.—*The origin of the Presbyterian Church polity in Scotland.*
34. Margaret R. Mackenzie, M.A., Aberdeen.—*The movement for Parliamentary reform in Aberdeen and the north of Scotland from 1815 to 1832.*
35. Andrew B. Mackintosh, M.A., St. Andrews.—*History of the influence of Plato's educational theories.*

ECONOMICS.—36. John Dawson, M.A., St. Andrews.—*Friendly Societies among the Greeks : an enquiry into the element of insurance in the Greek *ἐπavos*.*

37. Harry E. Shand, M.A., B.Sc. (Agric.), Aberdeen.—*The costs of production in farming, with special reference to the costs of the production of beef.*
(Resigned on appointment to post at Longmore, Esher, Surrey.)
38. James D. Smith, M.A., Aberdeen.—*The condition of the Scottish agricultural labourer.*

MODERN LANGUAGES AND LITERATURE.—39. Mary Burns, M.A., Edinburgh (Scholar, 1913-14).—*The language of Alphonse Daudet, novelist.*

40. Gordon C. Donald, M.A., Aberdeen (Scholar, 1913-14).—*The pronunciation of literary Scots at the beginning of the 16th century, based chiefly on the orthography of Dunbar.*
41. Matilda A. Ewan, M.A., Aberdeen.—*Exposition, appreciation, and criticism of the works of Friedrich von Hagedorn.*
(Resigned owing to arrangements for going to Leipzig being cancelled on account of the war.)
42. Kenneth Hayens, M.A., Glasgow.—*The syntax of the "Ancrén Riwlé."*
(Resigned on appointment as Lecturer in German, University College, Dundee.)
43. Edith S. Hooper, M.A., Edinburgh.—*A complete critical edition of the English masques of the 16th and 17th centuries.*
44. Edward G. M'Alpine, M.A., Edinburgh.—*The Elizabethan tragic stage in relation to Seneca himself and the French tragedies of his school.*
(Resigned on appointment as Professor of English Language and Literature in the Central College, Bangalore.)
45. Harry Sellers, M.A., Edinburgh (Scholar, 1913-14).—*Biographical study of Samuel Daniel.*
46. William A. Smith, M.A., Aberdeen.—*Zola and the German naturalism.*
(Resigned on receiving an appointment in British Museum.)
47. Peter W. Thomson, M.A., St. Andrews (Scholar, 1913-14).—*The influence of Lydgate on Scottish medieval literature.*

GRANTS.

- PHYSICS.—1. George A. Carse, M.A., D.Sc., Lecturer in Natural Philosophy, University of Edinburgh (Grantee, 1904-5, 1907-8, and 1912-13).—*Corpuscular emissions excited by characteristic Röntgen radiations.*
2. James R. Milne, D.Sc., Lecturer in Natural Philosophy, University of Edinburgh (Scholar, 1903-4 and 1904-5 ; Fellow, 1905-6 and 1906-7 ; Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*The scattering of light.*
 3. George Shearer, M.A., B.Sc., Research Student in Physics, University of Edinburgh.—*The ionisation produced in hydrogen by various Röntgen radiations.*

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
B.Research Scheme,
1914-15.

ENGINEERING.—4. Angus R. Fulton, B.Sc., Lecturer in Engineering, University College, Dundee (Grantee, 1909-10 and 1910-11).—*Lateral pressure of earth-work on retaining walls.*

5. Professor Arthur H. Gibson, D.Sc., University College, Dundee (Grantee, 1910-11).—*The loss of head accompanying outward flow of water between parallel and non-parallel discs.*

OCEANOGRAPHY.—6. William S. Bruce, LL.D., Aberdeen (Grantee, 1913-14).—*Observations of the temperature and density of sea-water.*

GEOLOGY.—7. Robert Campbell, M.A., D.Sc., Lecturer in Petrology, University of Edinburgh (Grantee, 1907-8, 1911-12, and 1913-14).—*Petrographic examination of the rocks collected at Gough Island.*

8. Professor J. W. Gregory, D.Sc.; George W. Tyrrell, F.G.S.; and D. Ferguson, University of Glasgow.—*The geology of South Georgia, etc.*

9. James H. Harvey Pirie, B.Sc., M.D., Edinburgh (Grantee, 1905-6).—*The glaciology of the South Orkney Islands.*

PALÆONTOLOGY.—10. Robert Kidston, LL.D., Glasgow (Joint Grantee, 1907-8 and 1908-9).—*On the fossil osmundaceæ, etc.*

CHEMISTRY.—11. Stanley C. Bate, B.Sc., Assistant in Chemistry, University College, Dundee.—*The development of halogen in optically active halogen acids.*

12. William S. Denham, D.Sc., Lecturer in Chemistry, University of St. Andrews.—*Formation and properties of anhydrides.*

13. Walter N. Haworth, D.Sc., Ph.D., Lecturer in Chemistry, University of St. Andrews (Grantee, 1913-14).—*Synthetic work in the alicyclic series.*

14. Professor G. G. Henderson, M.A., D.Sc., LL.D., Royal Technical College, Glasgow (Joint Grantee, 1903-4 and 1904-5; Grantee, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*Continuation of research on the terpenes.*

15. Professor James C. Irvine, D.Sc., Ph.D., University of St. Andrews (Fellow, 1903-4, 1904-5, and 1905-6; Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*Researches on the sugar group.*

16. Forsyth James Wilson, D.Sc., Ph.D., and Isidor Morris Heilbron, Ph.D., Lecturers in Chemistry, Royal Technical College, Glasgow (Forsyth J. Wilson—Scholar, 1903-4 and 1904-5; Grantee, 1907-8); Joint Grantees, 1912-13 and 1913-14).—*The semicarbazones and other similar derivatives of aldehydes and ketones.*

17. John K. Wood, D.Sc., Lecturer in Chemistry, University College, Dundee (Grantee, 1910-11).—*Determination of the affinity constants of amphoteric metallic hydroxides.*

BOTANY.—18. Rev. William Cran, M.A., Aberdeen (Grantee, 1913-14).—*Myxozoa in Aberdeenshire.*

19. George West, Lecturer in Botany, University College, Dundee.—*The diatom flora of Scotland.*

MYCOLOGY.—20. Malcolm Wilson, D.Sc., Lecturer in Mycology, University of Edinburgh.—*Investigation of a soil bacillus.*

ZOOLOGY.—21. James H. Ashworth, D.Sc., Lecturer in Invertebrate Zoology, University of Edinburgh (Grantee, 1903-4, 1904-5, 1905-6, 1906-7, 1907-8, and 1908-9).—*A new species of scirochilus, with a revision of the genus.*

22. Robert N. Rudmose Brown, D.Sc., Aberdeen (Scholar, 1905-6).—*Seals of the Weddell Sea: notes on their habits and distribution.*

23. William S. Bruce, LL.D., Aberdeen (Grantee, 1913-14).—*Memoir on Antarctic cetaea.*

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1914-15.

24. Griselda A. Dow, M.A., B.Sc., Aberdeen.—*The secretions of fishes.*
 25. Professor J. Graham Kerr, M.A., University of Glasgow (Grantee, 1906-7, 1909-10, 1911-12, and 1912-13).—*Certain problems in the marine zoology of the seas adjoining the west coasts of Scotland.*
 26. Professor W. C. M'Intosh, M.D., F.R.S., University of St. Andrews (Grantee, 1903-4, 1905-6, 1906-7, 1907-8, 1908-9, 1909-10, 1911-12, and 1913-14).—*Continuation of research on British annelids.*
 27. Lewis N. G. Ramsay, M.A., B.Sc., Robert N. Rudmose Brown, D.Sc., and William S. Bruce, LL.D., Aberdeen.—*The ornithology of the "Scotia."*
- PROTOZOOLOGY.—28. John S. Dunkerly, B.Sc., Lecturer in Protozoology, University of Glasgow (Grantee, 1913-14).—*Life-history and structure of certain marine protozoa.*
- EMBRYOLOGY.—29. James F. Gemmill, M.A., M.D., D.Sc., Lecturer in Embryology, University of Glasgow (Grantee, 1910-11, 1911-12, and 1913-14).—*Development of crania anomala, Mull.*
30. Robert W. Johnstone, M.A., M.D., Assistant in Midwifery, University of Edinburgh.—*Investigation of two specimens of early human ovum.*

PHYSIOLOGY.—31. Thomas Graham Brown, B.Sc., M.D. (Edin.), Lecturer in Experimental Physiology, Manchester (Fellow, 1910-11, 1911-12, and 1912-13; Grantee, 1907-8, 1908-9, 1909-10, and 1913-14).—*The functions of the nervous system.*

- 32. David Burns, M.A., B.Sc., Muirhead Demonstrator in Physiology, University of Glasgow (Scholar, 1911-12; Grantee, 1912-13 and 1913-14).—*Continuation of research on guanidin compounds.*
- 33. Edward P. Cathcart, M.D., D.Sc., Lecturer in Chemical Physiology, University of Glasgow (Grantee, 1906-7, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—(1) *The fate of protein and other nitrogenous food stuffs in the animal body.* (2) *The effect of work on the nitrogen output in the urine.*
- 34. George H. Clark, M.B., D.P.H., Lecturer in Physiology, University of Glasgow (Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—(1) *The action of CO₂ and other substances upon the heart and circulation.* (2) *The mechanism of the heart.*
- 35. Professor Percy T. Herring, M.D., University of St. Andrews (Grantee, 1908-9, 1909-10, 1912-13, and 1913-14).—*Continuation of research on the ductless glands and on internal secretions generally.*
- 36. James A. Hewitt, B.Sc., Assistant in Physiology, University of St. Andrews (Grantee, 1913-14).—*The influence of the ductless glands on metabolism growth and body generally.*
- 37. Annie Louise M'Iloy, M.D., Assistant in Obstetrics and Gynæcology, University of Glasgow (Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*The causes of abortion in man.*
- 38. Archibald C. M'Master, M.B., Ch.B., Edinburgh.—*The functions of the corpus luteum.*
- 39. Professor J. A. MacWilliam, M.D., University of Aberdeen.—(1) *The mechanism of the heart-beat and the blood-pressure.* (2) *The physiology of the heart and blood-vessels.*
- 40. Professor D. Noël Paton, M.D., University of Glasgow (Grantee, 1907-8, 1908-9, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—(1) *The physiology of the endocrinous glands.* (2) *Postural reflexes.*

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
B.Research Scheme,
1914-15.

41. James H. Paul, M.B., B.Sc., Barbour Scholar in Physiology, University of Glasgow.—(1) *Comparative study of autotomy in different crustacea.* (2) *The reflexes of balance in saithe and other fishes.*
42. Alexander M'L. Watson, Assistant in Physiology, University of Glasgow (Grantee, 1913-14).—*Development of the interstitial cells in the avian testes.*
- PHARMACOLOGY.—43. Professor Charles R. Marshall, M.D., University College, Dundee (Grantee, 1903-4).—(1) *A chemical investigation of cannabis indica.* (2) *The chemistry of brom-strychnines.*
- PATHOLOGY.—44. John K. M. Dickie, M.D., Edinburgh.—*Pathology of the larynx, etc.*
45. John S. Dunn, M.A., M.D., Lecturer in Morbid Histology, University of Glasgow.—(1) *The etiology of lymphadenoma.* (2) *Nephritis and its relation to arterial disease.*
46. John Fraser, M.D., Ch.M., Edinburgh (Grantee, 1910-11, 1911-12, 1912-13, and 1913-14).—*The etiology and pathology of rickets.*
47. John Smith Fraser, M.B., Ch.B., Edinburgh (Grantee, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—(1) *Pathology of the inner ear.* (2) *Reconstruction model of middle and inner ear.* (3) *Pathology of the larynx.*
48. John W. M'Nee, M.B., Assistant in Pathology, University of Glasgow (Fellow, 1912-13 and 1913-14).—(1) *Pathological chemistry of the blood and blood serum.* (2) *Experimental arterio-sclerosis.*
49. W. Blair M. Martin, M.D., Lecturer in Bacteriology, University of Glasgow (Scholar, 1906-7 ; Fellow, 1907-8, 1908-9, 1909-10, and 1910-11 ; Grantee, 1911-12, 1912-13, and 1913-14).—*Continuation of researches in bacteriology.*
50. James Miller, M.D., Lecturer in Pathology, School of Medicine of the Royal Colleges, Edinburgh (Grantee, 1912-13 and 1913-14).—(1) *The action of sensitised antigens.* (2) *Examination of sample of Edinburgh milk for the presence of living tubercle bacilli.*
51. Alexander P. Mitchell, M.D., Ch.M., Edinburgh (Grantee, 1911-12, 1912-13, and 1913-14).—*The relative frequency of the bovine and human types of tubercle bacilli occurring in tuberculous cervical adenitis, etc.*
52. Daniel Ritchie, M.D., Edinburgh (Grantee, 1913-14).—*The causes of insanity generally.*
53. Professor Lewis M. Sutherland, M.B., C.M., University College, Dundee.—*Healed injuries in bones of birds.*
54. George Haswell Wilson, M.B., Ch.B., Assistant in Pathology, University of Glasgow (Scholar, 1908-9 ; Fellow, 1909-10 and 1910-11 ; Grantee, 1911-12 and 1912-13).—(1) *The properties of globins derived from different animals.* (2) *Other problems in immunity.*
55. James Young, M.D., Tutor in Clinical Gynæcology, University of Edinburgh (Grantee, 1909-10, 1911-12, and 1912-13).—*The cause and treatment of eclampsia.*
- ARCHÆOLOGY.—56. Gwilym A. T. Davies, M.A., Lecturer in Roman History, University of Aberdeen (Grantee, 1913-14).—*Examination of the district about Turn Severin on the Danube, etc.*
57. George Macdonald, M.A., LL.D., Edinburgh (Grantee, 1907-8, 1910-11, and 1912-13).—*Exploration of Roman sites in Scotland, particularly on the Antonine Vallum.*
58. Steuart N. Miller, M.A., Lecturer in Roman History, University of Glasgow. —(Joint Grantee, 1911-12 ; Grantee, 1912-13).—*Excavation of the Roman fort at Balmuildy.*

1913-14

THE CARNEGIE TRUST

Appendix
B.Research Scheme,
1914-15.

59. Emeritus-Professor Sir William M. Ramsay, M.A., LL.D., Aberdeen (Grantee, 1903-4, 1904-5, 1906-7, 1907-8, 1912-13, and 1913-14).—*Continuation of excavation at Antioch.*
- HISTORY.—60. Alan O. Anderson, M.A., Edinburgh (Scholar, 1903-4 and 1904-5; Fellow, 1909-10, 1910-11, and 1911-12; Grantee, 1907-8, 1912-13, and 1913-14).—*Scottish annals from early Scottish, Manx, Irish, Scandinavian, and Welsh sources.*
61. Catherine R. Borland, M.A., Edinburgh (Scholar, 1906-7 and 1907-8; Fellow, 1908-9, 1909-10, and 1910-11; Grantee, 1911-12, 1912-13, and 1913-14).—*Catalogue of the Latin MSS. in University Library, Edinburgh, down to 1500.*
62. John R. Elder, M.A., Aberdeen (Grantee, 1911-12, 1912-13, and 1913-14).—*Spanish influences in Scottish history.*
63. John Fraser, M.A., Lecturer in Comparative Philology, University of Aberdeen (Grantee, 1913-14).—*An edition of the Irish translation of Nennius.*
64. Clement B. Gunn, M.D., Edinburgh (Grantee, 1905-6, 1909-10, 1910-11, 1911-12, and 1913-14).—*Books of the Church.*
65. Professor John Herkless, D.D., University of St. Andrews (Joint Grantee, 1909-10, 1910-11, and 1912-13).—*The archbishops of St. Andrews.*
66. Professor W. M. Lindsay, M.A., LL.D., University of St. Andrews (Grantee, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*History of abbreviation in mediæval MSS. in the period 850-1050.*
67. Rev. Adam Mackay, B.D., Edinburgh.—*Distinguished sons of Cruden.*
68. William Mackay, LL.D., Aberdeen.—*The records of Inverness.*
69. Margaret F. Moore, M.A., Edinburgh (Scholar, 1909-10 and 1910-11; Fellow, 1911-12, 1912-13, and 1913-14).—*Manorial and agrarian history of the Honour of Huntingdon.*
70. Matthew Shirlaw, Mus. Doc., Assistant in Music, University of Edinburgh.—*Rameau's theory of harmony.*
71. Professor Alexander Souter, M.A., D.Litt., University of Aberdeen (Grantee, 1912-13).—*Collation of a twelfth century MS. at Troyes.*
72. Rev. William Stephen, M.A., B.D., Aberdeen.—*History of the parish of Inverkeithing and Rosyth.*
73. Alice E. Stirling, M.A., Edinburgh.—*The methods of race culture adopted by the Greek states.*
- SOCIOLOGY.—74. Robert M. MacIver, M.A., Lecturer in Sociology, University of Aberdeen (Grantee, 1913-14).—*Particular aspects of social organisation and forms of development.*
- MODERN LANGUAGES AND LITERATURE.—75. F. E. A. Campbell, Ph.D., Lecturer in English Language, University of Aberdeen.—*The English pronunciation of the later 17th century.*
76. William Grant, M.A., Aberdeen; and Robert Jackson, M.A., Glasgow (Grantees, 1909-10, 1910-11, 1911-12, 1912-13, and 1913-14).—*A phonetic survey of the Scottish dialects as at present existing.*
77. Rev. Donald Maclean and Emeritus-Professor Donald Mackinnon, University of Edinburgh.—*Typographica Scoto-Gadelica.*
78. John S. Smart, M.A., Lecturer in English Literature, University of Glasgow (Grantee, 1913-14).—*The personal history of John Milton.*

III. REPORT UPON THE ROYAL COLLEGE OF PHYSICIANS'
LABORATORY FOR THE YEAR 1913-14.

During the year 1914 there have been twenty-nine workers engaged in research in the Laboratory. Of these, twenty-six were graduates in medicine, and one was a Doctor of Science of the University of Edinburgh. Ten were Fellows or Members of the Royal College of Physicians, and seven were Fellows of the Royal College of Surgeons; one was a Bachelor of Medicine of the University of Aberdeen, and one a Fellow of the Royal College of Surgeons of England. One was a McCosh Scholar of the University of Glasgow; one was an Ernest Hart Fellow of the British Medical Association; one was a John Lucas Walker Scholar of the University of Cambridge; two were Carnegie Fellows, and one was a Carnegie Scholar.

The quality of the work which has been done is on the whole good, and in only a few cases is little result likely to follow from the facilities which have been afforded. The subjects, as usual, have covered a wide range. As in the past few years a large amount of attention has been paid to tuberculosis, and among the aspects of this disease which have been investigated are the serum reactions in natural and experimental infections; the strains of bacilli occurring in children dying from various tuberculous affections; the prevalence of tuberculous milk in Edinburgh; the biology of the tubercle bacillus. Amongst other subjects which have been worked at are the pathology of rickets; the pathology of fungoid infections of the skin; the nature of the bacteria occurring in intestinal infections; the effect of the ductless glands on susceptibility to infection; the pathology of diseases of the internal ear; the factors concerned in the etiology of appendicitis; the innervation of the heart in man and animals; the etiology of puerperal eclampsia; the properties of sensitised vaccines; the etiology of septic infections of the kidney; the pathology of disseminated sclerosis. A prolonged investigation on the last subject, which has been going on for three or four years, has been concluded, and the results are ready for publication. During the year an elaborate inquiry into the pathology of the disease of sheep known as scrapie, which has been carried on under the auspices of the Scottish Board of Agriculture and of the East of Scotland College of Agriculture, has been concluded and the results have been published in book form. During the year fifteen papers have been published, and a list of these is appended.

During the year a considerable reorganisation of the work of the Laboratory was necessitated in consequence of the prospective joint scheme of the University, the Royal College of Physicians, and the Royal College of Surgeons for the establishment of an Institute for Medical Research as a memorial to Lord Lister. A further factor in the situation

1913-14

THE CARNEGIE TRUST

Appendix
B.

R. C. P. Laboratory.

was my having been appointed to the Chair of Bacteriology in the University, and the consequent arrangement made between the University and the Royal College of Physicians for University research students in bacteriology being given accommodation in the Laboratory. The readjustments which were made to meet the changed conditions consisted in my being relieved of the responsibility for the routine work of the Laboratory; at the same time Dr. McGowan was appointed Assistant Superintendent with extended duties, and Dr. Dawson, Neurological Histologist, with responsibility for the histological department. These arrangements, which have been in existence since the beginning of 1914, have worked satisfactorily. During the year the Laboratory has, as formerly, undertaken various investigations for Government departments. The Reporting Department has been carried on as in recent years, and is working satisfactorily.

It is already obvious that the European war is to have a very serious effect in interfering with the activity of the Laboratory as a centre of research. Nine of the workers and one Laboratory attendant are on service, and in consequence of extra calls upon the professional services of those who only give part of their time to research, their opportunities for undertaking original work will be very much restricted.

JAMES RITCHIE.

December 21, 1914.

LIST OF PAPERS PUBLISHED FROM THE ROYAL COLLEGE
OF PHYSICIANS' LABORATORY, 1913-14.

FRASER, J. S.

A case of acute suppurative otitis media, purulent labyrinthitis and leptomeningitis, without rupture of the tympanic membrane. *Edin. Med. Journ.*, 1914, vol. xii., p. 417.

LOGAN, W. R.

The intestinal flora of infants and young children. *Journ. Path. and Bacteriol.*, 1913-14, vol. xviii., p. 527.

M'GOWAN, J. P.

Investigation into the disease of sheep called "scrapie." Edinburgh, 1914.

M'GOWAN, J. P., and J. W. DAWSON.

A comparison of the lesions of the nervous system in distemper of the dog with those of human poliomyelitis. *Journ. Path. and Bacteriol.*, 1914-15, vol. xix., p. 182.

M'NEIL, CHARLES.

Anaphylaxis and status lymphaticus: their relation to intensified types of disease in infancy and childhood. *Edin. Med. Journ.*, 1914, vol. xiii., pp. 38, 120.

THIRTEENTH ANNUAL REPORT

1913-14

Scrofula or hypersensitiveness to tuberculous infection: its relation to abnormal constitution (status lymphaticus). *Edin. Med. Journ.*, 1914, vol. xii., p. 324.

Appendix
B.

The association of acutely fatal illness in infants and children with abnormal constitution (status lymphaticus). *Edin. Med. Journ.*, 1914, vol. xii., p. 25.

R. C. P. Laboratory.

MEIKLEJOHN, S. JEAN.

On the topography of the intra-cardiac ganglia of the rat's heart. *Journ. Anat. and Physiol.*, 1914.

MILLER, JAMES.

The prevalence of living tubercle bacilli in Edinburgh milk. *Edin. Med. Journ.*, 1914, vol. xii., p. 156.

MITCHELL, A. PHILP.

Report on the infection of children with the bovine tubercle bacillus. *Brit. Med. Journ.*, 1914, vol. i., p. 125.

The milk question in Edinburgh. *Edin. Med. Journ.*, 1914, vol. xii., p. 315.

Report on tuberculous milk in Edinburgh. *Brit. Med. Journ.*, 1914, vol. ii.

A bacteriological study of tuberculosis of the lymph glands in children. *Edin. Med. Journ.*, 1914, vol. xiii., p. 209.

Tuberculous milk in Edinburgh: its relation to surgical tuberculosis in children. *Veterinary Record*, 1914, July 4.

PORTER, A. E.

On the behaviour of trypsin in the presence of a specific precipitate. *Biochem Journ.*, vol. viii., no. i., p. 50.

**APPENDIX
C.****ASSISTANCE TO STUDENTS.****I. FEES PAID IN EACH UNIVERSITY CENTRE DURING THE
YEAR 1913-14:—**

- (1) For PREVIOUS SESSIONS.
- (2) For ACADEMIC YEAR 1913-14.
- (3) ABSTRACT SHOWING TOTAL CLASS FEES PAID
DURING FINANCIAL YEAR 1913-14.

II. COMPARATIVE TABLES FOR YEARS 1912-13 AND 1913-14:—

- (1) TOTAL NUMBERS OF BENEFICIARIES (*a*) IN EACH
UNIVERSITY CENTRE, AND (*b*) IN EACH FACULTY.
- (2) TOTAL PAYMENTS FOR FEES (*a*) IN EACH UNIVERSITY
CENTRE, AND (*b*) IN EACH FACULTY.
- (3) AVERAGE AMOUNTS PAID (*a*) IN EACH UNIVERSITY
CENTRE, AND (*b*) IN EACH FACULTY.

**III. SUMMARY OF VOLUNTARY REPAYMENTS BY BENEFICI-
ARIES DURING THE PERIOD FROM 7TH JUNE 1901 TO
30TH SEPTEMBER 1914.****IV. TABLES SHOWING THE NUMBER OF NEW APPLICANTS
ACCEPTED FOR WINTER SESSION 1913-14 IN THE
VARIOUS FACULTIES AT THE FOUR UNIVERSITY
CENTRES**

- (1) WHO OBTAINED THE LEAVING CERTIFICATE;
- (2) WHO, THOUGH THEY HAD BEEN IN ATTENDANCE AT
SCHOOLS UNDER INSPECTION OF THE SCOTCH
EDUCATION DEPARTMENT, HAD NOT OBTAINED
THE LEAVING CERTIFICATE; AND
- (3) WHO HAD NOT BEEN EDUCATED AT SCHOOLS UNDER
INSPECTION OF THE SCOTCH EDUCATION DEPART-
MENT, AND WERE THEREFORE UNABLE TO OBTAIN
THE LEAVING CERTIFICATE.

**V. TABLE SHOWING THE NUMBER OF NEW APPLICANTS
REFUSED FOR WINTER SESSION 1913-14 IN THE
VARIOUS FACULTIES AT THE FOUR UNIVERSITY
CENTRES.**

Appendix C.

**Expenditure upon
Assistance to
Students,**

(1) FEES PAID DURING THE FINANCIAL YEAR 1913-14
FOR PREVIOUS SESSIONS.

GLASGOW CENTRE—

Arts	.	.	.	.	£17	8	0	
Medicine	.	.	.	.	6	16	6	
								£24 4 6

ABERDEEN CENTRE—

[illegible]

EDINBURGH CENTRE—

Arts	.	.	.	.	.	.	.	8	8	0
								<hr/>		
								<i>£</i> 36	16	6

THE CARNEGIE TRUST

1913-14

Appendix
C.Expenditure upon
Assistance to
Students.

(2) NUMBER OF BENEFICIARIES AND FEES PAID IN EACH

ST. ANDREWS CENTRE.

FACULTY.	BENEFICIARIES.			CLASS FEES.			Average Fees paid per Beneficiary.
	Men.	Women.	Total.	Men.	Women.	Total.	
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
Arts . .	103	100	203	959 13 0	892 16 0	1852 9 0	9 2 6
Science .	34	14	48	462 10 0	157 15 0	620 5 0	12 18 5
Medicine .	46	18	64	763 5 0	342 6 0	1105 11 0	17 5 6
Divinity .	21	...	21	203 7 0	...	203 7 0	9 13 8
Totals .	204	132	336	2388 15 0	1392 17 0	3781 12 0	11 5 1

GLASGOW CENTRE.

FACULTY.	BENEFICIARIES.			CLASS FEES.			Average Fees paid per Beneficiary.
	Men.	Women.	Total.	Men.	Women.	Total.	
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
Arts . .	524	360	884	4642 14 0	3122 2 0	7764 16 0	8 15 8
Science .	196	17	213	2328 11 6	186 0 6	2514 12 0	11 16 1
Medicine .	267	33	300	4299 6 0	541 6 6	4840 12 6	16 2 8
Law . .	21	...	21	147 12 0	...	147 12 0	7 0 7
Divinity .	93	...	93	640 16 0	...	640 16 0	6 17 10
Totals .	1101	410	1511	12,058 19 6	3849 9 0	15,908 8 6	10 10 7

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
C.

UNIVERSITY CENTRE FOR ACADEMIC YEAR 1913-14.

Expenditure upon
Assistance to
Students.

ABERDEEN CENTRE.

FACULTY.	BENEFICIARIES.			CLASS FEES.						Average Fees paid per Bene- ficiary.	
	Men.	Women.	Total.	Men.		Women.		Total.			
				£	s. d.	£	s. d.	£	s. d.	£	s. d.
Arts . .	233	239	472	2335	6 0	2204	3 0	4539	9 0	9 12	4
Science .	63	13	76	818	1 0	157	10 0	975	11 0	12 16	9
Medicine .	139	22	161	2314	9 0	354	7 0	2668	16 0	16 11	6
Law . .	4	...	4	42	15 0	...		42	15 0	10 13	9
Divinity .	44	...	44	285	13 0	...		285	13 0	6 9	10
Totals .	483	274	757	5796	4 0	2716	0 0	8512	4 0	11 4	10

EDINBURGH CENTRE.

FACULTY.	BENEFICIARIES.			CLASS FEES.						Average Fees paid per Beneficiary.	
	Men.	Women.	Total.	Men.		Women.		Total.			
				£	s. d.	£	s. d.	£	s. d.	£	s. d.
Arts . .	367	376	743	3246	1 6	3082	9 0	6328	10 6	8 10	4
Science .	147	20	167	1774	2 0	244	8 6	2018	10 6	12 1	9
Medicine .	249	28	277	4036	7 0	476	7 0	4512	14 0	16 5	9
Law . .	20	...	20	135	9 0	...		135	9 0	6 15	5
Divinity .	85	...	85	563	15 0	...		563	15 0	6 12	8
Music .	1	4	5	6	0 0	22	0 0	28	0 0	5 12	0
Totals .	869	428	1297	9761	14 6	3825	4 6	13,586	19 0	10 9	6

1913-14

THE CARNEGIE TRUST

Appendix
C.Expenditure upon
Assistance to
Students.(3) *ABSTRACT SHOWING TOTAL CLASS FEES PAID
DURING FINANCIAL YEAR 1913-14.*

ST. ANDREWS CENTRE—

Academic Year, 1913-14	£3,781 12 0
------------------------	---	---	---	---	-------------

GLASGOW CENTRE—

Academic Year, 1913-14	.	.	£15,908 8 6	
Previous Sessions	.	.	24 4 6	
			<hr/>	15,932 13 0

ABERDEEN CENTRE—

Academic Year, 1913-14	.	.	£8,512 4 0	
Previous Sessions	.	.	4 4 0	
			<hr/>	8,516 8 0

EDINBURGH CENTRE—

Academic Year, 1913-14	.	.	£13,586 19 0	
Previous Sessions	.	.	8 8 0	
			<hr/>	13,595 7 0

Grand Total as in Clause B Account	.	.	.	<hr/>	£41,826 0 0
------------------------------------	---	---	---	-------	-------------

Value of Coupons issued but not cashed at close of

Financial Year	£1,298 0 0
----------------	---	---	---	---	------------

THIRTEENTH ANNUAL REPORT

1913-14

II. COMPARATIVE TABLES FOR ACADEMIC YEARS 1912-13 AND 1913-14.

Appendix
C.

(1) TOTAL NUMBERS OF BENEFICIARIES

Comparative
Tables.

(a) In each University Centre.

	St. Andrews Centre.	Glasgow Centre.	Aberdeen Centre.	Edinburgh Centre.	Totals.
Academic Year 1913-14, .	336	1511	757	1297	3901
Academic Year 1912-13, .	347	1480	754	1278	3859
Increase or Decrease, .	- 11	+ 31	+ 3	+ 19	+ 42
+ -					

(b) In each Faculty.

	Arts.	Science.	Medicine	Law.	Divinity.	Music.
<i>St. Andrews Centre—</i>						
Academic Year 1913-14, .	203	48	64	...	21	...
Academic Year 1912-13, .	217	53	59	...	18	...
Increase or Decrease, .	- 14	- 5	+ 5	...	+ 3	...
+ -						
<i>Glasgow Centre—</i>						
Academic Year, 1913-14, .	884	213	300	21	93	...
Academic Year 1912-13, .	896	210	265	19	90	...
Increase or Decrease, .	- 12	+ 3	+ 35	+ 2	+ 3	...
+ -						
<i>Aberdeen Centre—</i>						
Academic Year 1913-14, .	472	76	161	4	44	...
Academic Year 1912-13, .	498	62	144	4	46	...
Increase or Decrease, .	- 26	+ 14	+ 17	...	- 2	...
+ -						
<i>Edinburgh Centre—</i>						
Academic Year 1913-14, .	743	167	277	20	85	5
Academic Year 1912-13, .	753	158	268	18	76	5
Increase or Decrease, .	- 10	+ 9	+ 9	+ 2	+ 9	...
+ -						
<i>Totals over all Centres—</i>						
Academic Year 1913-14, .	2302	504	802	45	243	5
Academic Year 1912-13, .	2364	483	736	41	230	5
Increase or Decrease, .	- 62	+ 21	+ 66	+ 4	+ 13	...
+ -						

THE CARNEGIE TRUST

1913-14

Appendix
C.Comparative
Tables.

(2) TOTAL PAYMENTS FOR FEES

(a) In each University Centre.

	St. Andrews Centre.	Glasgow Centre.	Aberdeen Centre.	Edinburgh Centre.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Academic Year 1913-14,	3,781 12 0	15,908 8 6	8,512 4 0	13,586 19 0	41,789 3 6
Academic Year 1912-13,	3,920 11 0	16,408 11 0	8,902 5 0	14,664 17 6	43,896 4 6
Increase or Decrease, + -	-138 19 0	-500 3 6	-390 1 0	-1,077 18 6	-2,107 1 0

(b) In each Faculty.

	Arts.	Science.	Medicine.	Law.	Divinity.	Music.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>St. Andrews Centre—</i>						
Academic Year 1913-14,	1,852 9 0	620 5 0	1,105 11 0	...	203 7 0	...
Academic Year 1912-13,	1,927 16 0	697 19 0	1,112 2 0	...	182 14 0	...
Increase or Decrease, + -	-75 7 0	-77 14 0	-6 11 0	...	+20 13 0	...
<i>Glasgow Centre—</i>						
Academic Year 1913-14,	7,764 16 0	2,514 12 0	4,840 12 6	147 12 0	640 16 0	...
Academic Year 1912-13,	8,188 13 0	2,809 10 0	4,676 17 0	150 2 0	583 9 0	...
Increase or Decrease, + -	-423 17 0	-294 18 0	+163 15 6	-2 10 0	+57 7 0	...
<i>Aberdeen Centre—</i>						
Academic Year 1913-14,	4,539 9 0	975 11 0	2,668 16 0	42 15 0	285 13 0	...
Academic Year 1912-13,	5,273 15 0	963 0 0	2,304 0 0	28 13 0	332 17 0	...
Increase or Decrease, + -	-734 6 0	+12 11 0	+364 16 0	+14 2 0	-47 4 0	...
<i>Edinburgh Centre—</i>						
Academic Year 1913-14,	6,328 10 6	2,018 10 6	4,512 14 0	135 9 0	563 15 0	28 0 0
Academic Year 1912-13,	7,025 8 6	2,097 16 0	4,893 1 0	128 1 0	496 11 0	24 0 0
Increase or Decrease, + -	-696 18 0	-79 5 6	-380 7 0	+7 8 0	+67 4 0	+4 0 0
<i>Totals over all Centres—</i>						
Academic Year 1913-14,	20,485 4 6	6,128 8 6	13,127 13 6	325 16 0	1,693 11 0	28 0 0
Academic Year 1912-13,	22,415 12 6	6,568 5 0	12,986 0 0	306 16 0	1,595 11 0	24 0 0
Increase or Decrease, + -	-1930 8 0	-439 6 6	+141 13 6	+19 0 0	+98 0 0	+4 0 0

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
C.Comparative
Tables.

(3) AVERAGE AMOUNTS PAID

(a) In each University Centre.

	St. Andrews Centre.	Glasgow Centre.	Aberdeen Centre.	Edinburgh Centre.	Over all Centres.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Academic Year 1913-14, .	11 5 1	10 10 7	11 4 10	10 9 6	10 11 3
Academic Year 1912-13, .	11 6 0	11 1 9	11 16 2	11 9 6	11 7 6
Increase or Decrease, .	- 11	- 11 2	- 11 4	- 1 0 0	- 13 3
+ -					

(b) In each Faculty.

	Arts.	Science.	Medicine.	Law.	Divinity.	Music.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>St. Andrews Centre—</i>						
Academic Year 1913-14,	9 2 6	12 18 5	17 5 6	...	9 13 8	...
Academic Year 1912-13,	8 17 8	13 3 4	18 17 0	...	10 3 0	...
Increase or Decrease, .	+ 4 10	- 4 11	- 1 11 6	...	- 9 4	...
+ -						
<i>Glasgow Centre—</i>						
Academic Year 1913-14,	8 15 8	11 16 1	16 2 8	7 0 7	6 17 10	...
Academic Year 1912-13,	9 2 9	13 7 7	17 13 0	7 18 0	6 9 8	...
Increase or Decrease, .	- 7 1	- 1 11 6	- 1 10 4	- 17 5	+ 8 2	...
+ -						
<i>Aberdeen Centre—</i>						
Academic Year 1913-14,	9 12 4	12 16 9	16 11 6	10 13 9	6 9 10	...
Academic Year 1912-13,	10 11 9	15 10 8	16 0 0	7 3 3	7 4 9	...
Increase or Decrease, .	- 19 5	- 2 13 11	+ 11 6	+ 3 10 6	- 14 11	...
+ -						
<i>Edinburgh Centre—</i>						
Academic Year 1913-14,	8 10 4	12 1 9	16 5 9	6 15 5	6 12 8	5 12 0
Academic Year 1912-13,	9 6 7	13 5 7	18 5 2	7 2 3	6 10 8	4 16 0
Increase or Decrease, .	- 16 3	- 1 3 10	- 1 19 5	- 6 10	+ 2 0	+ 16 0
+ -						
<i>Averages over all Centres—</i>						
Academic Year 1913-14,	8 18 0	12 3 2	16 7 4	7 4 9	6 19 4	5 12 0
Academic Year 1912-13,	9 9 8	13 11 11	17 12 11	7 9 8	6 18 9	4 16 0
Increase or Decrease, .	- 11 8	- 1 8 9	- 1 4 7	- 4 11	+ 7	+ 16 0
+ -						

1913-14

THE CARNEGIE TRUST

Appendix
C.Voluntary
repayments of
Fees advanced.

III. TABLE SHOWING NUMBER OF BENEFICIARIES WHO HAVE VOLUNTARILY REFUNDED ADVANCES FOR CLASS FEES MADE BY THE TRUST ON THEIR BEHALF, AND THE AMOUNT OF SUCH REPAYMENTS, for the Period from 7th June 1901 (date of Trust Deed) to 30th September 1914.

FACULTY.	MEN.			WOMEN.			TOTALS.					
	No.	Amount.			No.	Amount.			No.	Amount.		
		£	s.	d.		£	s.	d.		£	s.	d.
Arts . . .	33	629	19	6	26	400	1	6	59	1030	1	0
Science . . .	15	415	7	2	2	66	3	0	17	481	10	2
Medicine . . .	39	1511	10	8	8	236	5	0	47	1747	15	8
Law . . .	6	72	3	0	...	...			6	72	3	0
Divinity . . .	6	79	4	0	...	...			6	79	4	0
Music . . .	...	...			1	8	8	0	1	8	8	0
Totals . . .	99	2708	4	4	37	710	17	6	136	3419	1	10

ABSTRACT SHOWING THE REPAYMENTS IN EACH ACADEMIC YEAR.

YEAR.	MEN.			WOMEN.			TOTALS.					
	No.	Amount.			No.	Amount.			No.	Amount.		
		£	s.	d.		£	s.	d.		£	s.	d.
1901-2 . . .	8	79	1	6	...	...			8	79	1	6
1902-3 . . .	5	58	16	0	1	13	6	0	6	72	2	0
1903-4 . . .	7	95	13	0	1	18	18	0	8	114	11	0
1904-5 . . .	5	65	2	0	1	9	19	6	6	75	1	6
1905-6 . . .	9	77	9	8	3	108	3	0	12	185	12	8
1906-7 . . .	5	128	15	0	1	8	8	0	6	137	3	0
1907-8 . . .	6	190	19	2	2	27.	6	0	8	218	5	2
1908-9 . . .	6	209	4	6	2	48	6	0	8	257	10	6
1909-10 . . .	10	455	0	0	4	94	14	0	14	549	14	0
1910-11 . . .	7	214	3	0	7	124	17	0	14	339	0	0
1911-12 . . .	10	316	8	0	7	102	14	0	17	419	2	0
1912-13 . . .	8	324	4	6	2	41	16	0	10	366	0	6
1913-14 . . .	13	493	8	6	6	112	10	0	19	605	18	0
Totals . . .	99	2708	4	10	37	710	17	6	136	3419	1	10

Note.—In a number of cases the sums repaid include interest at rates varying from $2\frac{1}{2}$ % simple to 5 % compound.

Where a repayment is made by instalments, sometimes spread over two or three years, it is included so far as numbers are concerned in the year when the first instalment was received, subsequent instalments being included in the money columns only.

TABLES AND SUMMARIES REGARDING THE EDUCATIONAL QUALIFICATIONS OF NEW APPLICANTS FOR SESSION 1913-14.

1913-14

THE CARNEGIE TRUST

Appendix

C.

Assistance to
Students.

IV.—TABLES AND

(a) TABLES SHOWING THE NUMBER OF NEW APPLICANTS ACCEPTED FOR WINTER THE VARIOUS FACULTIES AT THE FOUR UNIVERSITY CENTRES—Applicants ment (1) who obtained the Leaving Certificate; (2) who did not obtain inspection of the Scotch Education Department, who were therefore unable

ST. ANDREWS.

	(1) Scotch Applicants who obtained the Leaving Certificate.		(2) Scotch Applicants who did not obtain the Leaving Certificate.		(3) Other Applicants accepted.		Totals.
	M.	W.	M.	W.	M.	W.	
Arts,	29	25	3	1	...	3	61
Science,	3	2	3	...	...	...	8
Medicine,	7	2	2	...	2	...	13
Totals,	39	29	8	1	2	3	82

The Ages of the above Beneficiaries are as follows :—

	16		17		18		19		20 & over 20		Totals.
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
Arts (1),	2	...	9	3	12	17	6	4	...	1	54
(2), . . . . .	...	...	...	...	...	1	1	...	2	...	4
(3), . . . . .	...	...	...	2	...	1	...	...	...	...	3
											61
Science (1), . . . . .	...	...	2	1	...	1	1	...	...	...	5
(2), . . . . .	...	...	...	...	1	...	1	...	1	...	3
											8
Medicine (1),	1	...	...	1	5	1	1	...	...	...	9
(2), . . . . .	...	...	...	...	1	...	1	...	...	...	2
(3), . . . . .	...	...	...	...	1	...	...	...	1	...	2
											13
Totals,	3	...	11	7	20	21	11	4	4	1	82

GLASGOW.

	(1) Scotch Applicants who obtained the Leaving Certificate.		(2) Scotch Applicants who did not obtain the Leaving Certificate.		(3) Other Applicants accepted.		Totals.
	M.	W.	M.	W.	M.	W.	
Arts,	140	93	14	8	1	1	257
Science,	32	2	11	...	1	...	46
Medicine,	41	8	4	1	...	...	54
Law,	2	...	1	...	...	...	3
Totals,	215	103	30	9	2	1	360

The Ages of the above Beneficiaries are as follows :—

	16		17		18		19		20 & over 20		Totals.
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
Arts (1),	1	...	20	14	66	39	39	26	14	14	233
(2), . . . . .	...	...	1	1	3	2	2	...	8	5	22
(3), . . . . .	...	...	...	...	1	...	...	...	...	1	2
											257
Science (1),	2	...	11	...	9	2	5	...	5	...	34
(2), . . . . .	...	...	...	...	2	...	1	...	8	...	11
(3), . . . . .	...	...	...	...	1	...	...	...	...	...	1
											46
Medicine (1),	2	...	9	2	15	2	12	4	3	...	49
(2), . . . . .	...	...	...	...	1	...	1	1	2	...	5
											54
Law (1), . . . . .	...	...	1	...	...	...	...	...	1	...	2
(2), . . . . .	...	...	...	...	...	...	...	...	1	...	1
											3
Totals,	5	...	42	17	98	45	60	31	42	20	360

The above Tables do not include new Beneficiaries who are entering upon their second or later years of University attendance. The following are the numbers of new Applicants accepted for 1913-14 who are not in their first year and are attending the Universities of St. Andrews and Glasgow :—

St. Andrews, 3. Glasgow, 33

THIRTEENTH ANNUAL REPORT

1913-14

SUMMARIES.

SESSION 1913-14 IN THEIR FIRST YEAR OF UNIVERSITY ATTENDANCE IN educated at schools under inspection of the Scotch Education Department the Leaving Certificate; and (3) Applicants not educated at schools under to obtain the Leaving Certificate.

Appendix

C.

Assistance to
Students.

ABERDEEN.

	(1) Scotch Applicants who obtained the Leaving Certificate.		(2) Scotch Applicants who did not obtain the Leaving Certificate.		(3) Other Applicants accepted.		Totals.
	M.	W.	M.	W.	M.	W.	
Arts,	68	69*	4	7	...	...	148
Science,	11	3	...	...	...	...	14
Medicine,	20	5	2	...	...	...	27
Totals,	99	77	6	7	...	...	189

The Ages of the above Beneficiaries are as follows :—

	16		17		18		19		20 & over 20		Totals.
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
Arts (1),	1	1	20	11	24	31	19	19	4	7	137
(2), . . . .	...	...	...	...	...	2	1	1	3	4	11
											148
Science (1), . . . .	...	...	2	2	4	...	4	1	1	...	14
											14
Medicine (1),	2	...	7	...	8	3	2	1	1	1	25
(2), . . . .	...	...	...	...	...	...	2	...	...	...	2
											27
Totals,	3	1	29	13	36	36	28	22	9	2	189

* The above number includes 7 students of Fine Art

EDINBURGH.

	(1) Scotch Applicants who obtained the Leaving Certificate.		(2) Scotch Applicants who did not obtain the Leaving Certificate.		(3) Other Applicants accepted.		Totals.
	M.	W.	M.	W.	M.	W.	
Arts,	80	92	10	10	1	...	193
Science,	22	4	8	1	1	...	36
Medicine,	25	3	3	2	3	...	36
Law,	2	...	4	...	...	...	6
Totals,	129	99	25	13	5	...	271

The Ages of the above Beneficiaries are as follows :—

	16		17		18		19		20 & over 20		Totals.
	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
Arts (1), . . . .	...	1	18	8	34	49	24	25	4	9	172
(2), . . . .	...	...	1	2	1	2	1	4	7	2	20
(3), . . . .	...	...	...	...	...	...	...	...	1	...	1
											193
Science (1), . . . .	...	...	6	1	12	1	1	2	3	...	26
(2), . . . .	...	...	...	...	1	...	1	...	6	1	9
(3), . . . .	...	...	...	...	1	...	...	...	...	...	1
											36
Medicine (1),	1	...	8	...	10	2	5	1	1	...	28
(2), . . . .	...	...	...	...	2	1	1	...	...	1	5
(3), . . . .	...	...	...	...	1	...	1	...	1	...	3
											36
Law (1), . . . .	...	...	...	...	...	...	...	...	2	...	2
(2), . . . .	...	...	...	...	...	...	1	...	3	...	4
											6
Totals,	1	1	33	11	62	55	35	32	28	13	271

The above Tables do not include new Beneficiaries who are entering upon their second or later years of University attendance. The following are the numbers of new Applicants accepted for 1913-14 who are not in their first year and are attending the Universities of Aberdeen and Edinburgh :—

Aberdeen, 5. Edinburgh, 24.

1913-14

THE CARNEGIE TRUST

(b) SUMMARIES.

Appendix

C.

Assistance to
Students.

1. Percentages of Leaving Certificates obtained by New Applicants accepted for Winter Session 1913-14 in their first year of University attendance in the various Faculties over the four University centres :—

	ST. ANDREWS.			GLASGOW.			ABERDEEN.			EDINBURGH.			TOTALS.		
	L.C. Obtained.	L.C. not Obtained.	Per-centage.	L.C. Obtained.	L.C. not Obtained.	Per-centage.	L.C. Obtained.	L.C. not Obtained.	Per-centage.	L.C. Obtained.	L.C. not Obtained.	Per-centage.	L.C. Obtained.	L.C. not Obtained.	Per-centage.
Arts, .	54	7	88·5	233	24	90·7	137	11	92·5	172	21	89·1	596	63	90·4
Science, .	5	3	62·5	24	12	73·9	14	...	100·	26	10	72·2	79	25	75·7
Medicine, .	9	4	69·2	49	5	90·7	25	2	92·6	28	8	77·7	111	19	85·4
Law, .	...	...	...	2	1	50·	...	...	...	2	4	33·3	4	5	44·4
Totals, .	68	14	82·9	318	42	88·3	176	13	93·1	228	43	84·1	790	112	87·6

The corresponding figures for the two previous Winter Sessions were as follows :—

W.S. 1911-12,	59	17	77·6	234	110	68·0	127	32	79·8	204	54	79·0	624	213	74·5
W.S. 1912-13,	72	12	85·7	299	46	86·7	150	19	88·7	225	33	87·2	746	110	87·1

2. Summary of Percentages of Leaving Certificates obtained for Winter Session 1913-14 by Men and Women respectively, *i.e.* excluding New Applicants accepted who had not been at schools under inspection of the Scottish Education Department (Table I. (3)) :—

ATTENDED SCOTTISH SCHOOLS.			LEAVING CERTIFICATES OBTAINED.			PERCENTAGES OF LEAVING CERTIFICATES OBTAINED.		
Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
551	338	889	482	308	790	87·5	91·1	88·8

Note.—The numbers of those who supplemented their Leaving Certificates by passes at the Arts and Science P.E. to comply with Joint Board requirements are as follows :—
St. Andrews, 4 ; Glasgow, 21 ; Aberdeen, 5 ; Edinburgh, 11 ; Total, 41.

3. Summary and Percentages of Ages of all New Applicants accepted for Winter Session 1913-14 who are in their First Year of University attendance :—

AGES.	BENEFICIARIES.			PERCENTAGES.		
	Men.	Women.	Total.	Men.	Women.	Total.
16	12	2	14	2·15	·58	1·56
17	115	48	163	20·53	14·04	18·07
18	216	157	373	38·57	45·91	41·35
19	134	89	223	23·93	26·02	24·72
20 & over 20	83	46	129	14·82	13·45	14·3
Totals, .	560	342	902	100·	100·	100·

V. TABLE SHOWING THE NUMBER OF NEW APPLICANTS REFUSED FOR
WINTER SESSION 1913-14 IN THE VARIOUS FACULTIES AT THE
FOUR UNIVERSITY CENTRES.

	ST. ANDREWS.		GLASGOW.		ABERDEEN.		EDINBURGH.		TOTALS.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	
Arts, . . .	1	1	7	2	...	2	2	2	17
Science, . . .	...	...	6	...	2	...	3	1	12
Medicine, . . .	...	...	14	2	3	...	6	...	25
Law, . . .	...	...	4	...	...	...	1	...	5
Fine Art, . . .	...	...	1	3	...	...	...	2	6
Totals, .	1	1	32	7	5	2	12	5	65

APPENDIX
D.**ABSTRACT OF FINANCIAL ACCOUNTS FOR YEAR**
ENDED 30TH SEPTEMBER 1914.

- (1) RECEIPTS AND PAYMENTS FOR GENERAL PURPOSES.
- (2) ACCOUNT OF INCOME AND EXPENDITURE UNDER CLAUSE A OF TRUST DEED.
- (3) ACCOUNT OF INCOME AND EXPENDITURE UNDER CLAUSE B OF TRUST DEED.
- (4) ADDENDUM I.—RESERVE FUND ACCOUNT.
- (5) ADDENDUM II.—ABSTRACT OF BALANCES AND PAYMENTS THEREFROM TO UNIVERSITIES AND COLLEGES UNDER SECOND QUINQUENNIAL SCHEME OF DISTRIBUTION.
- (6) ADDENDUM III.—ABSTRACT OF GRANTS AND PAYMENTS TO UNIVERSITIES AND COLLEGES UNDER THIRD QUINQUENNIAL SCHEME OF DISTRIBUTION.
- (7) ADDENDUM IV.—STATEMENT OF INCOME AND EXPENDITURE FOR LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS.
- (8) ADDENDUM V.—REPORTING FEES ACCOUNT.
- (9) ADDENDUM VI.—DETAILS OF CLASS FEES PAID.
- (10) ADDENDUM VII.—NOTE SHOWING HOW BALANCES ARE ACCOUNTED FOR.

1913-14

THE CARNEGIE TRUST

—
Appendix
D.

Account of
Receipts and
Payments for
the Year ended
Sept. 30, 1914.

(1) RECEIPTS AND PAYMENTS

for the Year ended

RECEIPTS.

INTEREST ON \$10,000,000 FIFTY-YEAR 5 % GOLD BONDS OF THE UNITED
STATES STEEL CORPORATION:—

On \$4,000,000 Bonds of Series B, for year,	.	.	.	£40,231	2	8
\$3,000,000 do. D, do.,	.	.	.	30,756	8	2
\$3,000,000 do. F, do.,	.	.	.	30,669	19	4

£101,657 10 2

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
D.Account of
Receipts and
Payments for
the Year ended
Sept. 30, 1914.

FOR GENERAL PURPOSES

30th September 1914.

PAYMENTS.

EXPENSES OF MANAGEMENT—

Trustees' travelling expenses,	£86 14 0
Salaries of Officials and Honoraria to Examiners and Expert Reporters,	2,471 13 4
Printing and Stationery,	621 2 8
Furniture and Fittings for Office,	8 19 6
Rent, Rates, Taxes, and Fire Insurance,	256 19 4
Fuel, Light, and Cleaning,	58 18 7
Interest on Bank overdraft,	143 6 5
Miscellaneous expenses,	71 8 6
Petty disbursements, including postages, telephone dues, Bank charges on remittances, etc.,	193 10 6
	<hr/>
	£3,912 12 10

NET REVENUE available for division between Clauses A and B—

Transferred to Clause A Account,	£48,872 8 8
Do. Clause B Account,	48,872 8 8
	<hr/>
	97,744 17 4
	<hr/>
	£101,657 10 2

1913-14

THE CARNEGIE TRUST

Appendix
D.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

(2) ACCOUNT OF INCOME

under CLAUSE A
for the Year ended

INCOME

BALANCE AT CREDIT at 30th September 1913, .	£245 14 0	
Balance transferred from Clause B Account, . .	5,040 19 9	
		£5,286 13 9
ONE-HALF OF NET REVENUE TRANSFERRED FROM GENERAL ACCOUNT,		48,872 8 8
INTEREST ON RAILWAY DEBENTURE STOCK and other Investments forming Reserve Fund,	£4,685 17 5	
INTEREST ON DEPOSIT RECEIPTS on which part of Revenue has been placed from time to time,	144 16 9	
INCOME-TAX (deducted from interest on Re- serve Fund investments) recovered,	272 10 7	
		5,103 4 9
GRANTS UNDER RESEARCH SCHEME REPAID,		23 15 8
GRANT FOR PROVISIONAL ASSISTANCE REPAID,		25 0 0
VOLUNTARY REPAYMENT OF FEES by former Beneficiaries, .		605 18 0

Carry forward, . . £59,922 0 10

THIRTEENTH ANNUAL REPORT

1913-14

AND EXPENDITURE

OF TRUST DEED

30th September 1914.

EXPENDITURE.

AMOUNTS TRANSFERRED TO ACCOUNTS FOR UNIVERSITIES AND EXTRA MURAL COLLEGES UNDER THIRD QUINQUENNIAL SCHEME OF DISTRIBUTION. (For actual payments made and undrawn balances see Addendum No. III.)*

Appendix
D.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

ST. ANDREWS CENTRE.

<i>University of St. Andrews—</i>	For Quinquennium.		
Library,	£5,000		
Steel shelving of Library,	1,700		
Equipment of Chemical Laboratory,	200		
Equipment of Pathological Museum, etc., Conjoint Medical School,	800		
Towards replacing Capital expenditure out of General Fund upon buildings and permanent equipment,	14,100		
To pay off outstanding debt incurred in the acquisition of sites for extensions of Dundee University College Buildings,	7,700		
Equipment of Engineering Laboratory, Dundee,	3,000		
Completion of Endowment of University Lectureship in Geology, Dundee,	5,000		
Total for Quinquennium,	£37,500		
Instalment for year,	£7,500	0	0
Total for St. Andrews Centre,		£7,500	0 0

GLASGOW CENTRE.

<i>University of Glasgow—</i>	For Quinquennium.		
Library,	£5,000		
Towards provision of new buildings for the Faculty of Arts and the Department of Zoology,	45,000		
Total for Quinquennium,	£50,000		
Instalment for year,	£10,000	0	0

St. Mungo's College—

Towards salary attached to the St. Mungo's Chair of Surgery in Glasgow University,	400	0	0
Carry forward,	£10,400	0	0
		£7,500	0 0

1913-14

THE CARNEGIE TRUST

—
Appendix
D.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

ACCOUNT OF INCOME AND

INCOME.

Brought forward,	£59,922 0 10
------------------	--------------

Carry forward,	£59,922 0 10
----------------	--------------

THIRTEENTH ANNUAL REPORT

1913-14

EXPENDITURE UNDER CLAUSE A—*continued*.Appendix
D.

EXPENDITURE.

EXPENDITURE UNDER THIRD QUINQUENNIAL SCHEME—*continued*.Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

Brought forward,	£7,500	0	0
GLASGOW CENTRE— <i>continued</i> .			
Brought forward,	£10,400	0	0
<i>The Royal Technical College—</i>			
Library,	£100	0	0
Provisional Assistance—Teaching	300	0	0
Endowment Fund for Salaries and Pensions,	600	0	0
	<hr/>	1,000	0 0
<i>The Anderson College of Medicine—</i>			
Permanent Equipment,	100	0	0
<i>Glasgow Veterinary College—</i>			
Towards completion of Building Scheme,	100	0	0
<i>Glasgow School of Art—</i>			
Equipment for Library and Museum,	200	0	0
<i>U.F. Church College—</i>			
Library,	50	0	0
<i>West of Scotland Agricultural College—</i>			
For purpose still to be arranged,	200	0	0
	<hr/>		
Total for Glasgow Centre,		12,050	0 0

ABERDEEN CENTRE.

<i>University of Aberdeen—</i>	For Quin- quennium.		
Library,	£5,000		
Permanent Equipment of Laboratories,	5,000		
Completion of Endowment of Lecture- ships in :—			
Education,	1,000		
German,	2,250		
Constitutional Law and History	2,000		
New Buildings at King's College, and towards extension of Library and erection of Examination Hall,	24,750		
	<hr/>		
Total for Quinquennium,	£40,000		
Instalment for year,	£8,000	0	0
<i>U.F. Church College—</i>			
Library,	50	0	0
<i>North of Scotland College of Agriculture—</i>			
For purpose still to be arranged,	200	0	0
<i>Robert Gordon's Technical College—</i>			
For purpose still to be arranged,	400	0	0
	<hr/>		
Total for Aberdeen Centre,		8,650	0 0
		<hr/>	
Carry forward,	£28,200	0	0

1913-14

THE CARNEGIE TRUST

—
Appendix
D.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

ACCOUNT OF INCOME AND

INCOME.

Brought forward, . . . £59,922 0 10

Carry forward, . . . £59,922 0 10

THIRTEENTH ANNUAL REPORT

1913-14

EXPENDITURE UNDER CLAUSE A—*continued*.Appendix
D.

EXPENDITURE.

EXPENDITURE UNDER THIRD QUINQUENNIAL SCHEME—*continued*.Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

Brought forward, . . . £28,200 0 0

EDINBURGH CENTRE.

University of Edinburgh— For Quinquennium.

Library, . . . £5,000

Buildings and Permanent Equipment—

(a) Chemical Department, Arts accommodation, Apparatus and Equipment and Catalogue of Anatomical Museum, 37,500

(b) Edinburgh Lister Institute of Pathology, . . . 10,000

Total for Quinquennium, . £52,500

Instalment for year, . . . £10,500 0 0

Heriot-Watt College—

Towards Building and Equipment of Mining Department, . . . 400 0 0

School of Medicine of the Royal Colleges—

Towards provision of Equipment and for general purposes, . . . 400 0 0

Edinburgh School of Medicine for Women—

Towards provision of Equipment and for general purposes, . . . 400 0 0

Royal (Dick) Veterinary College—

Towards completion of Building Scheme, . . . 200 0 0

Edinburgh College of Art—

For Equipment, . . . 200 0 0

U.F. Church College, Edinburgh—

For Library, . . . 50 0 0

Clinical Medicine Research Laboratory of Royal Infirmary, Edinburgh—

For general purposes, . . . 100 0 0

Edinburgh and East of Scotland College of Agriculture—

For purpose still to be arranged, . . . 200 0 0

Total for Edinburgh Centre, . . . 12,450 0 0

Total Grants paid or set aside under Third Quinquennial Scheme, . . . £40,650 0 0

Carry forward, . . . £40,650 0 0

1913-14

THE CARNEGIE TRUST

—
Appendix
D.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914.

ACCOUNT OF INCOME AND

INCOME.

Brought forward, . £59,922 0 10

£59,922 0 10

THIRTEENTH ANNUAL REPORT

1913-14

EXPENDITURE UNDER CLAUSE A—*continued*.Appendix
D.

EXPENDITURE.

Account of
Income and
Expenditure
under Clause A
for the Year
ended Sept. 30,
1914 .

Brought forward, . . £40,650 0 0

ENDOWMENT OF POST-GRADUATE STUDY AND RESEARCH.

FELLOWSHIPS, £2252 10 0

EXPENSES OF FELLOWS, 131 4 6

SCHOLARSHIPS, 2916 10 0

GRANTS IN AID OF RESEARCH, 2352 10 3

THE LABORATORY OF THE ROYAL COLLEGE
OF PHYSICIANS, EDINBURGH—Excess of Expenditure for Maintenance,
Upkeep, Wages, etc., of Laboratory over
income, as detailed in Addendum No. IV., . . 413 15 8

8,066 10 5

(For details as to University Centres,
see under.)

£48,716 10 5

BALANCE AT CREDIT at 30th September 1914, . . . 11,205 10 5

£59,922 0 10

ALLOCATION OF EXPENDITURE ON RESEARCH ACCORDING
TO UNIVERSITY CENTRES.

	St. Andrews Centre.	Glasgow Centre.	Aberdeen Centre.	Edinburgh Centre.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Fellowships, .	325 0 0	737 10 0	450 0 0	740 0 0	2,252 10 0
Expenses of Fellows, .	...	68 13 7	32 3 2	30 7 9	131 4 6
Scholarships, .	775 0 0	534 0 0	675 0 0	932 10 0	2,916 10 0
Grants, . .	268 17 9	384 5 8	650 5 3	1,049 1 7	2,352 10 3
Laboratory, .	...	...	...	413 15 8	413 15 8
Totals, .	1,368 17 9	1,724 9 3	1,807 8 5	3,165 15 0	8,066 10 5

1913-14

THE CARNEGIE TRUST

—
Appendix
D.

(3) ACCOUNT OF INCOME

under CLAUSE B

for the Year ended

Account of
Income and
Expenditure
under Clause B
for the Year
ended Sept. 30,
1914.

INCOME.

VALUE OF FEE COUPONS issued but not cashed at 30th September

1913 brought forward, £1,406 0 0

ONE-HALF OF NET REVENUE TRANSFERRED FROM GENERAL
ACCOUNT,

48,872 8 8

FEES REPAID BY STUDENTS—

Compulsory Repayments by Students failing to comply
with Regulations,

80 10 0

£50,358 18 8

THIRTEENTH ANNUAL REPORT

1913-14

AND EXPENDITURE

OF TRUST DEED

30th September 1914.

Appendix
D.Account of
Income and
Expenditure
under Clause B
for the Year
ended Sept. 30,
1914.

EXPENDITURE.

CLASS FEES OF STUDENTS—

St. Andrews Centre—

University,	£2,068	16	0
Dundee University College,	1,712	16	0

£3,781 12 0

Glasgow Centre—

University,	£14,437	8	6
*Extra-mural Schools,	1,495	4	6

15,932 13 0

Aberdeen Centre—

University,	£7,686	2	0
*Extra-mural Schools,	830	6	0

8,516 8 0

Edinburgh Centre—

University,	£12,171	14	0
*Extra-mural Schools,	1,423	13	0

13,595 7 0

£41,826 0 0

ASSISTANCE BEYOND PAYMENT OF CLASS FEES—

Glasgow Centre,	£10	0	0
Aberdeen Centre,	15	0	0
Edinburgh Centre,	74	0	0

99 0 0

VALUE OF FEE COUPONS issued but not yet cashed carried forward—

St. Andrews Centre,	£65	0	0
Glasgow Centre,	551	0	0
Aberdeen Centre,	182	0	0
Edinburgh Centre,	500	0	0

1,298 0 0

BALANCE AT CREDIT at 30th September 1914, to be transferred to Clause A Account,

7,135 18 8

£50,358 18 8

* For details, see Addendum No. VI.

THE CARNEGIE TRUST

1913-14

—
Appendix
D.

Reserve Fund

(4) ADDENDUM

RESERVE FUND

AMOUNT OF RESERVE FUND as at 30th September 1913, . £180,017 12 4

£180,017 12 4

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
D.Reserve Fund
Account.

NO. 1.

ACCOUNT.

AMOUNT OF RESERVE FUND as at 30th September 1914, . £180,017 12 4

INVESTMENTS HELD AT COST—

£6,160 Caledonian Railway 4 % Debenture Stock,	£8,359 11 11	
£6,140 Great Eastern Railway 4 % do.,	8,014 16 11	
£5,000 Great Northern Railway 3 % do.,	5,138 14 10	
£5,000 North British Railway 3 % do.,	5,103 4 6	
£5,000 North British Railway 3 % Consolidated Lien Stock,	4,905 7 0	
£5,570 Midland Railway 2½ % Debenture Stock,	4,786 11 10	
£4,820 North-Eastern Railway 3 % do.,	4,988 3 6	
£6,080 Great Western Railway 4 % do.,	8,396 11 11	
£4,648 London and North-Western Railway 3 % Debenture Stock,	5,002 11 0	
£5,000 London and South-Western Railway 3 % Debenture Stock,	5,078 1 9	
£3,740 London, Brighton, and South Coast Railway 4½ % Debenture Stock,	5,349 2 1	
£5,000 Glasgow and South-Western Railway 4 % Debenture Stock,	6,607 0 10	
£3,300 Lancashire and Yorkshire Railway 3 % Debenture Stock,	3,301 16 3	
£3,650 Great Central Railway 4½ % Debenture Stock,	5,007 6 8	
£5,230 East India Railway 3½ % Debenture Stock,	4,996 0 6	
£10,000 Terminable Debenture by North British Railway Company at 3¼ % (repayable 11th November 1914),	10,000 0 0	
£29,958, 0s. 5d. Consols 2½ %,	25,000 0 0	
£10,000 Local Loans 3 % Stock,	9,980 0 9	
£10,617, 3s. 5d. India 3½ % Stock,	10,002 10 1	
£5,000 Bond and Disposition in Security over lands of Balgonar, and heritable property in Saline, Fifeshire, at 3½ %,	5,000 0 0	
£25,000 Loan to Edinburgh Association for the provision of Hostels for Women Students at 2½ %,	25,000 0 0	
Laboratory Buildings and other property in Bristo Place and Forrest Road, Edinburgh, with instruments, apparatus and fittings therein,	10,000 0 0	
	£180,017 12 4	
	<u>£180,017 1 4</u>	

1913-14

THE CARNEGIE TRUST

Appendix
D.Balances and
Payments to
Universities
and Colleges
under Second
Quinquennial
Scheme.

(5) ADDENDUM NO. II.

ABSTRACT OF BALANCES AND PAYMENTS THEREFROM TO UNIVERSITIES
AND COLLEGES UNDER SECOND QUINQUENNIAL SCHEME OF DISTRIBUTION,*As at 30th September 1914.*

ST. ANDREWS UNIVERSITY.

Amount of Funds held at
30th September 1913, £20,417 14 3.
Interest, 367 8 0

Payments—
Pathological Museum, . £141 10 10
Endowments—

Botanical Gardens, . 3,067 0 0
and Interest, . . 314 7 8
Lectureship in Geology, 5,000 0 0
and Interest, . . 377 16 6
Lectureship in History, 5,000 0 0
and Interest, . . 372 14 8
Lectureship in Economics, 5,000 0 0
and Interest, . . 372 4 11
Lectureship in French
(Dundee), . . 1,000 0 0
and Interest, . . 75 10 0

Amount of Funds undrawn
at 30th September
1914, 63 17 8
In Bank on
Deposit, £63 17 8

Remaining
undrawn.

£63 17 8

£20,785 2 3£20,785 2 3

GLASGOW UNIVERSITY.

Amount of Funds held at
30th September 1913, £27,468 9 5
Interest, 836 6 3

Payments—Endowments—

Chair of Mercantile Law, £5,000 0 0
and Interest, : . 340 11 0
Lectureship in English
Language, . . 7,500 0 0
and Interest, . . 510 16 3
Lectureship in French, 7,500 0 0
and Interest, . . 510 16 3
Lectureship in Bacteri-
ology, . . . 5,000 0 0
and Interest, . . 340 11 0
Lectureship in German, 1,500 0 0
and Interest, . . 102 1 2

£28,304 15 8£28,304 15 8

Carry forward, £63 17 8

THIRTEENTH ANNUAL REPORT

ABSTRACT OF BALANCES AND PAYMENTS—*continued*.

1913-14

Appendix
D.Balances and
Payments to
Universities
and Colleges
under Second
Quinquennial
Scheme.

Brought forward, Remaining undrawn.
 £63 17 8

WEST OF SCOTLAND AGRICULTURAL COLLEGE, GLASGOW.

Amount of Funds held at 30th September 1913, £652 12 3	Payments— Equipment, . . . £171 0 0	
Interest, 4 12 10	Amount of Funds un- drawn at 30th Sep- tember 1914, . . . 486 5 1	486 5 1
	In Bank on Deposit, £482 11 0	
	Cash, . . . 3 14 1	
	<u>£486 5 1</u>	
<u>£657 5 1</u>	<u>£657 5 1</u>	

THE ANDERSON COLLEGE OF MEDICINE, GLASGOW.

Amount of Funds held at 30th September 1913, £108 8 7	Payments— For apparatus, . . . £78 9 9	
Interest, 2 19 9	Amount of Funds un- drawn at 30th Sep- tember 1914, . . . 32 18 7	32 18 7
	In Bank on Deposit, £32 4 2	
	Cash, . . . 0 14 5	
	<u>£32 18 7</u>	
<u>£111 8 4</u>	<u>£111 8 4</u>	

GLASGOW VETERINARY COLLEGE.

Amount of Funds held at 30th September 1913, £198 4 7	Payments— New Buildings, . . . £203 13 1	
Interest, 5 8 6		
<u>£203 13 1</u>	<u>£203 13 1</u>	

Carry forward, £583 1 4

1913-14

THE CARNEGIE TRUST

Appendix D.

ABSTRACT OF BALANCES AND PAYMENTS—continued.

**Balances and
Payments to
Universities
and Colleges
under Second
Quinquennial
Scheme.**

		Remaining undrawn.
Brought forward,	.	£583 1 4

ABERDEEN UNIVERSITY.

Amount of Funds held at					
30th September 1913, £33,210	3	9			
Interest,	247	11	11		
£33,457	15	8			

ABERDEEN AND NORTH OF SCOTLAND TECHNICAL COLLEGE.

[illegible]

NORTH OF SCOTLAND COLLEGE OF AGRICULTURE.

Amount of Funds held at 30th September 1913, £1,036 9 8	Payments— Towards cost of Estate of Craibstone, . . . £1,077 15 10
Interest, 41 6 2	
<hr/> £1,077 15 10	<hr/> £1,077 15 10

Carry forward,	£2,012	9	7
----------------	--------	---	---

Carry forward, .	<u>£3,558 17 0</u>
------------------	--------------------

1913-14

THE CARNEGIE TRUST

Appendix
D.ABSTRACT OF BALANCES AND PAYMENTS—*continued.*Balances and
Payments to
Universities
and Colleges
under Second
Quinquennial
Scheme.

			Brought forward,	£3,558 17 0	Remaining undrawn.
EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.					
Amount of Funds held at			Payments—		
30th September 1913,	£533	8 7	Towards cost of new		
Interest,	20	13 5	Anatomy room, .	£377 10 1	
			Amount of Funds undrawn		
			at 30th September 1914,	176 11 11	176 11 11
			In Bank on		
			Deposit, £173 11 11		
			Cash, . 3 0 0		
			<u>£176 11 11</u>		
	<u>£554</u>	<u>2 0</u>		<u>£554</u>	<u>2 0</u>
ROYAL (DICK) VETERINARY COLLEGE, EDINBURGH.					
Amount of Funds held at			Payments—		
30th September 1913,	£900	0 0	Towards cost of new		
Interest,	41	17 10	Buildings, . . .	£941 17 10	
	<u>£941</u>	<u>17 10</u>		<u>£941 17 10</u>	
			Total undrawn balances,	£3,735	8 11

THIRTEENTH ANNUAL REPORT

1913-14

Appendix
D.Grants and
Payments to
Universities
and Colleges
under Third
Quinquennial
Scheme.

(6) ADDENDUM NO. III.

ABSTRACT OF GRANTS AND PAYMENTS TO UNIVERSITIES AND COLLEGES
UNDER THE THIRD QUINQUENNIAL SCHEME OF DISTRIBUTION, with Balances
remaining undrawn,*As at 30th September 1914.*

ST. ANDREWS UNIVERSITY.			Undrawn balances.
Grant for Year, . . . £7,500 0 0	Payments—		
	For Library, . . . £1,000 0 0		
	Towards replacing capital expenditure out of General Fund upon buildings and permanent equipment, . . . 3,252 0 0		
	Towards paying off outstanding debt incurred in acquisition of sites for extension of buildings at University College, Dundee, . . . 3,248 0 0		
<u>£7,500 0 0</u>	<u>£7,500 0 0</u>		...
GLASGOW UNIVERSITY.			
Grant for Year, . . . £10,000 0 0	Payments—		
	For Library, . . . £1,000 0 0		
	Amount of Funds undrawn at 30th September 1914, . . . 9,000 0 0		£9,000 0 0
<u>£10,000 0 0</u>	<u>£10,000 0 0</u>		
ST. MUNGO'S COLLEGE, GLASGOW.			
Grant for Year, . . . £400 0 0	Payments—		
	For Provisional Assistance—Teaching, . . . £400 0 0		
<u>£400 0 0</u>	<u>£400 0 0</u>		...
Carry forward, . . . £9,000 0 0			

1913-14

THE CARNEGIE TRUST

Appendix
D.ABSTRACT OF GRANTS AND PAYMENTS—*continued*.Grants and
Payments to
Universities
and Colleges
under Third
Quinquennial
Scheme.

		Brought forward, . . .	Undrawn balances. £9,000 0 0
THE ROYAL TECHNICAL COLLEGE, GLASGOW.			
Grant for Year, . . .	£1,000 0 0	Payments—	
		For Library, . . .	£100 0 0
		For Provisional Assist- ance—Teaching, . . .	300 0 0
		Amount of Funds undrawn at 30th September 1914, . . .	600 0 0
	<u>£1,000 0 0</u>		<u>600 0 0</u>
			£1,000 0 0

THE ANDERSON COLLEGE OF MEDICINE, GLASGOW.

Grant for Year, . . .	£100 0 0	Amount of Funds undrawn at 30th September 1914, . . .	£100 0 0	100 0 0
	<u>£100 0 0</u>		<u>£100 0 0</u>	

GLASGOW VETERINARY COLLEGE.

Grant for Year, . . .	£100 0 0	Payments—	
		New Buildings, . . .	£100 0 0
	<u>£100 0 0</u>		<u>£100 0 0</u>

GLASGOW SCHOOL OF ART.

Grant for Year, . . .	£200 0 0	Payments—	
		For Equipment, . . .	£200 0 0
	<u>£200 0 0</u>		<u>£200 0 0</u>

Carry forward, . . . £9,700 0 0

THIRTEENTH ANNUAL REPORT

1913-14

ABSTRACT OF GRANTS AND PAYMENTS—*continued*.

Appendix

D.

Grants and
Payments to
Universities
and Colleges
under Third
Quinquennial
Scheme.

			Undrawn balances.
Brought forward, . . .			£9,700 0 0
U.F. CHURCH COLLEGE, GLASGOW.			
Grant for Year, . . .	£50 0 0	Payments—	
		For Library, . . .	£50 0 0
	<u>£50 0 0</u>		<u>£50 0 0</u>
WEST OF SCOTLAND AGRICULTURAL COLLEGE, GLASGOW.			
Grant for Year, . . .	£200 0 0	Amount of Funds undrawn at 30th September 1914, . . .	£200 0 0
	<u>£200 0 0</u>		<u>£200 0 0</u>
			200 0 0
ABERDEEN UNIVERSITY.			
Grant for Year, . . .	£8,000 0 0	Payments—	
		For Library, . . .	£1,000 0 0
		Amount of Funds undrawn at 30th September 1914, . . .	7,000 0 0
	<u>£8,000 0 0</u>		<u>£8,000 0 0</u>
			7,000 0 0
U.F. CHURCH COLLEGE, ABERDEEN.			
Grant for Year, . . .	£50 0 0	Payments—	
		For Library, . . .	£50 0 0
	<u>£50 0 0</u>		<u>£50 0 0</u>
ABERDEEN AND NORTH OF SCOTLAND COLLEGE OF AGRICULTURE.			
Grant for Year, . . .	£200 0 0	Amount of Funds undrawn at 30th September 1914, . . .	£200 0 0
	<u>£200 0 0</u>		<u>£200 0 0</u>
			200 0 0
Carry forward, . . .			£17,100 0 0

1913-14

THE CARNEGIE TRUST

Appendix
D.Grants and
Payments to
Universities
and Colleges
under Third
Quinquennial
Scheme.ABSTRACT OF GRANTS AND PAYMENTS—*continued.*

				Undrawn balances.
Brought forward, . . .				£17,100 0 0
ROBERT GORDON'S TECHNICAL COLLEGE, ABERDEEN.				
Grant for Year, . . .	£400 0 0	Amount of Funds undrawn at 30th September 1914, . . .	£400 0 0	400 0 0
	<u>£400 0 0</u>		<u>£400 0 0</u>	
EDINBURGH UNIVERSITY.				
Grant for Year, . . .	£10,500 0 0	Payments—		
		For Library, . . .	£1,000 0 0	
		For new buildings for Arts accommodation, . . .	5,500 0 0	
		Amount of Funds undrawn at 30th September 1914, . . .	4,000 0 0	4,000 0 0
	<u>£10,500 0 0</u>		<u>£10,500 0 0</u>	
HERIOT-WATT COLLEGE, EDINBURGH.				
Grant for Year, . . .	£400 0 0	Amount of Funds undrawn at 30th September 1914, . . .	£400 0 0	400 0 0
	<u>£400 0 0</u>		<u>£400 0 0</u>	
SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, EDINBURGH.				
Grant for Year, . . .	£400 0 0	Payments—		
		Towards provision of Permanent Equip- ment, and for General Purposes, . . .	£400 0 0	
	<u>£400 0 0</u>		<u>£400 0 0</u>	
EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.				
Grant for Year, . . .	£400 0 0	Payments—		
		Towards provision of Permanent Equip- ment, and for General Purposes, . . .	£400 0 0	
	<u>£400 0 0</u>		<u>£400 0 0</u>	
Carry forward, . . .				£21,900 0 0

THIRTEENTH ANNUAL REPORT

ABSTRACT OF GRANTS AND PAYMENTS—*continued.*

1913-14

Appendix
D.Grants and
Payments to
Universities
and Colleges
under Third
Quinquennial
Scheme.

				Undrawn balances.
		Brought forward,	£21,900	0 0
ROYAL (DICK) VETERINARY COLLEGE, EDINBURGH.				
Grant for Year,	£200	0 0	Payments—	
			Towards cost of new	
			Buildings,	£200 0 0
	<u>£200</u>	<u>0 0</u>		<u>£200 0 0</u>
EDINBURGH COLLEGE OF ART.				
Grant for Year,	£200	0 0	Amount of Funds undrawn	
			at 30th September	
			1914,	£200 0 0
	<u>£200</u>	<u>0 0</u>		<u>£200 0 0</u>
				200 0 0
EDINBURGH U.F. CHURCH COLLEGE.				
Grant for Year,	£50	0 0	Payments—	
			For Library,	£50 0 0
	<u>£50</u>	<u>0 0</u>		<u>£50 0 0</u>
CLINICAL MEDICINE RESEARCH LABORATORY OF ROYAL INFIRMARY, EDINBURGH.				
Grant for Year,	£100	0 0	Payments—	
			Towards general ex-	
			penses,	£100 0 0
	<u>£100</u>	<u>0 0</u>		<u>£100 0 0</u>
EDINBURGH AND EAST OF SCOTLAND COLLEGE OF AGRICULTURE.				
Grant for Year	£200	0 0	Amount of Funds undrawn	
			at 30th September	
			1914,	£200 0 0
	<u>£200</u>	<u>0 0</u>		<u>£200 0 0</u>
				200 0 0
Total undrawn balances,				£22,300 0 0

1913-14

THE CARNEGIE TRUST

Appendix
D.

(7) ADDENDUM NO. IV.

Statement of
Income and
Expenditure for
Laboratory for
the Year ended
Sept. 30, 1914.

LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS.

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED
30TH SEPTEMBER 1914.

INCOME.

Royal College of Physicians, Annual contribution,	£500	0	0
Less Income Tax,	29	12	5
			£470 7 7
Royal College of Surgeons, contribution,			150 0 0
University Court, Annual contribution,			200 0 0
War Office for use of Laboratory,			20 0 0
Income Tax recovered,			36 9 2
Rent charged against Reporting Fee account,			10 0 0
Rent of Shops,			75 0 0
Rent of Office,			17 0 0
			£978 16 9
Excess of Expenditure over Income made up by Carnegie Trust,			413 15 8
			<u>£1,392 12 5</u>

EXPENDITURE.

Salaries,			£589 12 10
Chemicals and other Materials,			298 9 10
Fuel,			63 0 9
Gas,			53 12 2
Electric Light,			34 11 1
Water,			11 2 4
Cleaning,			26 7 2
Upkeep and minor repairs,			97 3 5
Stationery and Printing,			10 16 3
Telephonic communication,			11 15 0
Telegraphic address,			1 1 0
Incidental expenses,			34 8 3
Repairs to Buildings—			
Shops,			6 18 11
Rates and Taxes—			
As Owners,	£42	18	2 $\frac{1}{4}$
Occupiers,	48	0	0 $\frac{1}{2}$
			90 18 2 $\frac{3}{4}$
Insurance—			
Fire—Buildings and Furnishings,	£12	0	0
Boilers,	3	5	0
Employers' Liability,	2	2	1
Plate Glass,	0	15	0
Contributions under Insurance Act,	4	7	1
			22 9 2
Advertising,			1 18 0
Factor's commission and postages,			1 19 0 $\frac{1}{4}$
Apparatus purchased and for which Special Grant awarded,			36 9 0
			<u>£1,392 12 5</u>

THIRTEENTH ANNUAL REPORT

1913-14

—
Appendix
D.Reporting Fees
Account.

(8) ADDENDUM NO. V.

LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS.

REPORTING FEES ACCOUNT.

INCOME.

BALANCE AT CREDIT at 30th September 1913, . . .	£106	6	7
Ordinary Fees collected under Scheme of June 1909—			
From Local Authorities and other public bodies, . . .	148	2	2
Medical Practitioners,	315	1	0
	<u>£569</u>	<u>9</u>	<u>9</u>

EXPENDITURE.

Fees erroneously charged last year returned, . . .	£10	10	0
Salaries of Bacteriologist and Assistants, . . .	390	18	9
Materials and stationery,	19	6	6
Rent,	10	0	0
Gas and Water,	8	0	0
Postages,	15	0	0
	<u>£453</u>	<u>15</u>	<u>3</u>
BALANCE AT CREDIT OF ACCOUNT carried forward, . . .	115	14	6
	<u>£569</u>	<u>9</u>	<u>9</u>

1913-14

THE CARNEGIE TRUST

Appendix

(9) ADDENDUM NO. VI.

D.

DETAILS OF CLASS FEES PAID DURING FINANCIAL YEAR 1913-14.

Details of Class
Fees Paid during
Financial Year
1913-14.

ST. ANDREWS CENTRE—

University,	£2,068	16	0	
Dundee University College,	1,712	16	0	
				£3,781 12 0

GLASGOW CENTRE—

University,	£10,642	3	6	
Queen Margaret College,	3,795	5	0	
Royal Technical College,	427	16	0	
West of Scotland Agricultural College,	64	0	0	
Veterinary College,	24	0	0	
U. F. Church College,	228	0	0	
School of Art,	81	0	0	
Anderson College of Medicine,	93	2	0	
Western Medical School,	75	12	0	
Western Infirmary,	364	6	0	
Royal Infirmary,	59	14	6	
Eye Infirmary,	65	2	0	
R. F. Muirhead—Mathematics,	12	12	0	
				15,932 13 0

ABERDEEN CENTRE—

University,	£7,686	2	0	
U. F. Church College,	99	0	0	
School of Art,	63	0	0	
Dispensary and Vaccine Institution. Vaccination,	31	10	0	
Lecturers in Clinical Medicine,	207	8	0	
Lecturers in Clinical Surgery,	243	14	0	
Dr. Wm. Reid—Insanity,	50	6	0	
Dr. A. Rudolf Galloway—Ophthalmology,	16	16	0	
Dr. Usher—Ophthalmology,	39	18	0	
Dr. J. Mackenzie Booth—Ear, Nose and Throat,	23	2	0	
Professor Matthew Hay—Fevers,	27	6	0	
Dr. Henry Peterkin—Ear, Nose and Throat,	22	0	0	
A. J. Murray—Plan Drawing,	6	6	0	
				8,516 8 0

EDINBURGH CENTRE—

University,	£12,171	14	0	
Heriot-Watt College,	134	12	0	
U. F. Church College,	209	0	0	
Free Church College,	22	10	0	
College of Art,	66	0	0	
East of Scotland Agricultural College,	116	14	0	
Royal (Dick) Veterinary College,	51	6	0	
School of Medicine of the Royal Colleges,	346	3	0	
School of Medicine for Women,	471	2	0	
Dr. Burnet—Materia Medica,	3	3	0	
Dr. Sargood Fry—Materia Medica,	3	3	0	
				13,595 7 0

Total Class Fees paid during Financial Year, £41,826 0 0

THIRTEENTH ANNUAL REPORT

1913-14

—
Appendix
D.Note showing
how Balances are
accounted for.

(10) ADDENDUM NO. VII.

NOTE SHOWING HOW BALANCES ARE ACCOUNTED FOR.

BALANCE at credit of Clause A Account,	.	.	.	£11,205	10	5
Do. do. of Clause B Account,	.	.	.	7,135	18	8
Do. do. of Reserve Fund,	.	.	.	180,017	12	4
Do. do. of Students,	.	.	.	1,298	0	0
Do. do. of Universities and Colleges under Second Scheme of Distribution,	.	.	.	3,735	8	11
Do. do. of Universities and Colleges under Third Scheme of Distribution,	.	.	.	22,300	0	0
Do. do. of Laboratory Reporting Fee Account,	.	.	.	115	14	6
				£225,808	4	10

ACCOUNTED FOR THUS—

Reserve Fund Investments,	.	.	.	£180,017	12	4
On Deposit with Royal Bank,	.	.	.	44,728	0	5
On Current Account with Royal Bank,	.	.	.	791	12	5
Do. Laboratory Account,	.	.	.	8	11	2
Cash on hand per Cash Book,	.	.	.	35	10	7
Do. at Laboratory per Petty Cash Book,	.	.	.	1	8	6
Value of stock at Laboratory and sums due by workers,	.	.	.	15	9	5
Payments made in advance for next year,	.	.	.	210	0	0
				£225,808	4	10

EDINBURGH, 18th November 1914.—I have examined and audited the Accounts of the Treasurer of the Carnegie Trust for the Universities of Scotland, of which the foregoing is an Abstract, for the year ending 30th September 1914, and I have found the same to be correct, and sufficiently vouched. The Security Writs have been exhibited to me.

J. MAXTONE GRAHAM, C.A.



3 0112 105487323